DOCUMENT RESUME

ED 438 645 EC 307 667

AUTHOR	Goodman, Laura, Ed.
TITLE	Understanding Our Gifted, 1999.
ISSN	ISSN-1040-1350
PUB DATE	1999-00-00
NOTE	146p.; Published quarterly. For Volume 10, see ED 432 077.
AVAILABLE FROM	Open Space Communications, Inc., P.O. Box 18268, Boulder, CO 80308-8268. Tel: 800-494-6178 (Toll Free) ($35 per year; institutions, $45).
PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	Understanding Our Gifted; v11 n1-4 1998-1999
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Child Development; Elementary Secondary Education; Emotional Development; *Females; *Gifted; Social Development; *Student Development; *Teacher Education

ABSTRACT

The focus of these four issues of a quarterly journal on gifted children is on the total child, gifted girls, asynchrony, and teaching teachers. Each issue also includes columns on parents, the Internet, home schooling, software reviews, and recommended books. Major articles include the following: "A Circle of Friends: The Nature and Nurture of Social Relationships among Gifted Children" (Annette Revel Sheely); "The Total Teacher for the Total Child" (Mary Anna Thornton and Marilyn Wallace); "A Road Less Traveled" (Lorraine Hoyt); "The Math-Science Mystique" (Lynn Fox, Jennifer Engle, and Janet Soller); "Gifted Girls" (Joan Franklin Smutny); "Compiling a Life's Work: A Conversation with Computing Pioneer Fran Allen" (Karen LaBonte); "Carousel...Girls and the M Word"(Monique Lloyd); "The Balance Uneasy: Asynchronous Development in Gifted Children" (Younghee M. Kim and LeoNora M. Cohen); "Asynchrony Personified" (Laura Goodman); "Asynchrony and the Gifted" (Jane Piirto); "Giftedness: The Asynchrony Syndrome" (Michael Rios); "Carousel...Does One Size Ever Fit All? A Case for Individualizing Curricula for Gifted and Talented Students" (F. Richard Olenchak); "On the Road, Teaching Teachers" (Susan Winebrenner); "Connecting with Gifted Students in Easy, Meaningful Ways" (Tracy J. Stegall); "Carousel...When Mama Bears Go to School" (Hope Sargeant); and "High Tech but High Touch: Strategies for Teaching and Learning via Distance" (Sheri Nowak). (Some articles contain references.) (DB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 438 645

UNDERSTANDING OUR GIFTED

VOLUME 11

ISSUES 1-4

FALL 1998-SUMMER 1999

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Knopper
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

EC 307667

BEST COPY AVAILABLE

UNDERSTANDING OUR GIFTED®

Dedicated to helping gifted children reach their full potential

INSIDE

The Total Child

Fall, 1998 Volume 11, Issue 1

parents

e

ents parents

talented

BEST COPY AVAILABLE

Publisher
Dorothy Knopper

Editor
Laura Goodman

Design/Desktop Publishing
Ann Alexander Leggett

Editorial Assistance
Joan Franklin Smutny
Cal Roberts

UNDERSTANDING OUR GIFTED

Open Space Communications, In

Editorial Advisory Board

Alexinia Baldwin
Professor
University of Connecticut

Sandra Berger
ERIC Clearinghouse-Disabilities/Gifted Ed.
Council for Exceptional Children, VA

Ernesto Bernal
Professor of Educational Psychology
University of Texas - Pan American

George Betts
Professor of Special Education
Gifted and Talented
University of Northern Colorado

Barbara Clark
Professor
California State University

LeoNora Cohen
Associate Professor
Oregon State University

James Delisle
Professor
Co-Director, SENG
Kent State University, OH

John Feldhusen
Professor
Purdue University, IN

Carol Fertig
Peak Educational Resources
Cherry Creek Schools, CO

Maurice D. Fisher
Publisher
Gifted Education Press, VA

Jerry Flack
President's Teaching Scholar
University of Colorado,
Colorado Springs

Gloria Frender
Educational Consultant
Brain Power, Inc., CO

Marvin Gold
Publisher, Tapes 'n Books for
Gifted Education, AL

Pamela Hildebrand
Special Education Consultant
Melbourne, Australia

Pat Hollingsworth
University School for Gifted Children
University of Tulsa, OK

Holly Hultgren
Principal
Boulder Valley Schools, CO

Frances A. Karnes
Professor, Special Education
Director, Center for Gifted Studies
University of Southern Mississippi

Elinor Katz
Dean of Education
University of Denver

Bertie Kingore
Shelton Professor & Elementary/Secondary Ed.
Hardin-Simmons University, TX

C. June Maker
Associate Professor
University of Arizona

Joel McIntosh
Publisher
Prufrock Press, TX

Connie McLendon
Executive Director
Texas Association for Gifted/Talented

Garnet Millar
Provincial Coordinator
Guidance & Counseling
Alberta Education, Canada

Sheri Nowak
Assistant Professor
Emporia State University, KS

Rick Olenchak
Professor & Psychologist
Center for Gifted Education and Psychology
University of Houston, TX

Jeanette P. Parker
Director, Center for Gifted Ed.
University of Southwestern Louisiana,
Lafayette

Gina Ginsberg Riggs
Executive Director
Gifted Child Society/PING, NJ

Ann Robinson
Professor
University of Arkansas at Little Rock

Mark Runco
California State University, Fullerton

Ellie Schatz
Executive Director
Wisconsin Center for Academically Talented You

Beverly Shaklee
Associate Professor
Kent State University, OH

Dorothy Sisk
Director, Conn Chair for Gifted Education
Lamar University, TX

Joan Franklin Smutny
Director, Center for Gifted
National-Louis University, IL

Stuart A. Tonemah
President
American Indian Research & Development, OK

E. Paul Torrance
Georgia Studies of Creative Behavior

Joyce VanTassel-Baska
Professor
College of William & Mary, VA

Sally Walker
Executive Director
Illinois Association for Gifted Children

Marilyn Wallace
Academic Director
Creative Children's Academy, IL

Susan Winebrenner
Education Consulting Service, MI

Understanding Our Gifted (ISSN 1040-1350) is published quarterly by **Open Space Communications, Inc.**, P.O. Box 18268, Boulder, CO 80308-8268. Subscriptions are $35 for 1 year: Institutions $45. International subscriptions are $47 U.S. funds; International Institutions $57. Back issues available. Third class postage paid at Boulder, CO. For subscription address changes, send mailing label along with new address to *Understanding Our Gifted*, 1900 Folsom, Suite 108, Boulder, CO 80302, eight weeks before moving. Material in *Understanding Our Gifted* can be copied for personal use only. No material can be reproduced for publication without permission. Appropriate credit must be given. Copyright 1998. **Open Space Communications, Inc.** All rights reserved.
(303)444-7020/FAX (303)545-6505, 1-800-494-6178.

BEST COPY AVAILABLE

RECEIVED
AUG 0 5 1999

Focus: The Total Child

Contents

2- Between the Lines

3- A Circle of Friends:
The Nature and Nurturing of Social Relationships
Among Gifted Children
Annette Revel Sheely

9- The Total Teacher for the Total Child
Mary Anna Thornton & Marilyn Wallace

15- A Road Less Traveled
Lorraine Hoyt

19- Carousel....Authenticity
Cal Roberts

22- ParentSpace....Proclamation of Differences
Laura Goodman

24- Surfing the Net
Sandra Berger

27- Notes from Home:....The S-Word
Allegra Sanchez

30- Above & Beyond....The Total Child
Susan Winebrenner

32- Interact!

32- Book Bag

5

Between the Lines

I confess that I am, and have always been, uncomfortable with the concept of "The Total Child," though this is the very subject we've chosen for this issue of ***Understanding Our Gifted.*** This discomfort originated in my early days of teaching, when education was more structured. As the Teacher-me struggled to carry out the requirements of a rigid "3 R's" (Reading, 'Riting, 'Rithmetic) curriculum, the Mom-me looked at each child holistically, knowing that there was so much more than academics to be developed. To Mom it seemed so incomplete—and so wrong—to emphasis only cognitive needs. What about self esteem....and creativity.....and physical abilities? This uneasiness went largely unnamed, however; it wasn't until long after I left the classroom that I realized that the conflict emanated from what to me was the unrealistic expectation of reaching only some parts of children, rather than every aspect of them. As a teacher, I'd been asked to look at them as less-than-total children. And that had seemed wrong and incomplete.

Later on, I came across Barbara Clark's classic *Growing Up Gifted* (1979), and it all came together. Clark's all-inclusive approach to the social-emotional, cognitive, physical and intuitive aspects of children's development confirmed my own belief that we must constantly be aware of every facet and nuance of children's lives. The mere fact that we even have to use the phrase "The Total Child" seems counter-intuitive and out of sync to me. Surely we would never consider focusing on "The Partial Child."

Of course, in many children—those who are gifted as well as those who are special in other ways—there are certain areas of acute strengths and weaknesses which demand much more attention. In the gifted, emotional intensity and great sensitivity are usually apparent, as well as an overwhelming desire for intellectual challenge. Throw in the perfectionism element and some asynchronous development, and you have a total child with an astounding, even staggering, diversity of needs. To ignore any aspect of such unique needs would certainly neglect seriously the all-inclusive development of a "total child."

This journal is committed to an ongoing, dual look at the gifted in our society, from the outside-in and the inside-out....a total, strategic look, if you will. In the pages to follow, our writers, drawing on their collective experiences as teachers and parents, offer us insights from both those necessary and integral vantage points so that we can more ably address the ways of learning, the personalities and the real everyday lives of the children in our care and about whom we care so much. Without striving for such depth of understanding, I doubt we can help any child, particularly a gifted one. ❖

D.K.

6

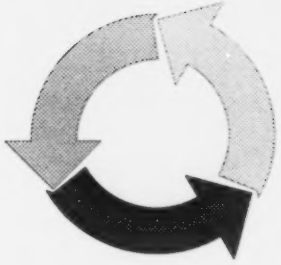
A Circle of Friends: The Nature and Nurturing of Social Relationships Among Gifted Children

Annette Revel Sheely

friend\ ëfrend\ n1 a: one attached to another by affection or esteem b: acquaintance 2 a: one that is not hostile b: one that is of the same nation, party, or group

Merriam-Webster, 1991

For years, psychologists have talked about the importance of friendships in normal social development (Festinger, 1954; Roffey, Tarrent & Majors, 1994). While childhood friendship itself may seem like a very common thing, it has a significant impact on future life in helping children develop and practice the social skills needed for getting along with others. Having a close friend with whom they can share their emotional lives helps shift children developmentally, from being egocentric to being able to understand other people's perspectives. In 1932, Piaget discussed the importance of friendships in accelerating a child's "decentration," crucial for understanding the world around her and critical in helping a young child form an identity. The feedback children receive from peer relationships informs them about how they are perceived by people outside the family. Most children receive warm, nurturing comments at home and are able to assume that their parents value them. But to earn the trust and mutual respect of one's peers validates the child's self-worth as an individual. This adds a layer to the foundation for good self-esteem as the child matures.



Gifted children have the same need for friendship as anyone and yet there are many obstacles that interfere with the creation and maintenance of close, social relationships. One problem for gifted children is that this need is not commonly addressed. Once a child is identified as gifted, the focus of parents and teachers often turns to determining and providing appropriate curriculum. Certainly education is an important issue. When a child stands out as being developmentally advanced, it's understandable that we focus our attention on teaching to those extraordinary strengths. How rare they are, how precious. But a gifted child is more than the sum of his subtest scores. Academic requirements are only a part of what the whole child will need to develop into a socially competent adult. Many gifted children, though in possession of great intellectual potential, lack true, deep friendship—a part of human life both ordinary and profound.

I know of a powerful example of this. While attending a public school's gifted program, a highly gifted 6th-grade boy complained that adults treated him as though he was "a brain on two legs." His parents had already chosen the prestigious university they wanted him to eventually attend, while providing every academic enrichment opportunity available in his community. His scholarly achievements were remarkable; he taught himself calculus one summer, just by reading a textbook. So it was a shock when, years later, just as he was about to enter the university as a physics major, he attempted suicide. His parents had tried their best to

- *continued on next page*

Annette Revel Sheely *counsels and assesses gifted people of all ages at the Gifted Development Center and at the Center for Education Enrichment, both in Colorado. She also researches assessment and social/emotional needs of the gifted.*

Friends

continued

help him fulfill his academic potential, but it seems they hadn't been aware of how sad and alone he felt. They had no way to know; he never complained about it. When he didn't spend time with friends after school or on weekends, they probably assumed he was just studious. Possibly, in pouring all his energy into academics, he could feel good about the part of his life that was working well and thereby avoided the part that didn't feel good. The truth is, he later reported, he'd never had a close friend and didn't know why, or what to do about it. His relationships with classmates were superficial. While a suicide attempt is a calamitous way to deal with loneliness, this feeling of isolation and unhappiness among gifted children is not at all unusual.

Parents' Issues

I assess and counsel gifted children. When meeting with parents to share the results of an assessment, the majority of questions I'm initially asked pertain to academic potential and current levels of achievement. Because giftedness indicates advanced cognitive development, it's easy to focus in on that one facet of a child.

As part of the assessment process, we have each child who comes to our center complete a self-perception inventory. While many gifted children we test have a high perception of their academic ability, sadly, they tend to rate themselves much lower in their social competence. When this happens, it can be a wake-up call that a gifted child is having difficulty making friends, or it can confirm something parents have already sensed.

For some families, bringing up the topic of childhood friendships can open a Pandora's box of memories and emotions. Perhaps in a father's own childhood, he was teased by classmates for being a "nerd" or an "egghead." A mother may recall how she willingly hid so many of her gifts to fit in with other girls in her school, not wanting to be different. Parents may feel that they survived those experiences without any outside intervention, so there's no need to make much over their own child's lack of social confidence. But how might things have been better or easier if those parents had had more social support in their lives? While there are a number of obstacles that can hinder the development of gifted children's friendships, there are also strategies and resources that can improve the likelihood of a gifted child finding and keeping friendships.

Gifted children tend to have their emotional volume turned up full blast, experiencing emotional highs and lows at a profound level.

Introversion

There is a higher incidence of introversion among the gifted. Introverts are said to make up about 25% of the general population (Myers, 1962), but in a study of over 1,500 students in a talent program, half were introverts (Gallagher, 1990). And the percentage of introverts increases among the highly and profoundly gifted. Silverman (1993) notes that among the children she has found above 160 IQ, over 75% are introverts.

What is important for parents to know is that introverted children will tend to prefer one or two very close friends, rather than wanting to be popular with many people. And if there are no potential friends in the picture, introverts can feel very comfortable being alone, with their rich, inner world to keep them company. Indeed, introverts have a need to be alone at times. But this should not be confused with not needing friends. If a gifted child is introverted, and doesn't have at least one close friend, parents should not assume that the child doesn't want or need social relationships. Introverts have the same need for friendships as other children, but they seem to value quality over quantity. The child may not be in contact with appropriate

- continued on next page

Friends

continued

peers or may truly have no idea how to let another person know he has an interest in being friends. If a gifted child is introverted and does not seem adept at making friends, parents ought to consider providing assistance in the same way they'd provide help if the child were lacking in some important school skill.

Not Enough Social Practice with True Peers

Gifted children have fewer opportunities to practice social relationships with true peers. We don't come out of the womb understanding social norms, but we need to master them to have a smooth flow of social interaction with other people. We learn their structure and sequence from daily observation of each other's behavior and from perceiving how other people respond to us. With practice, we learn the social skills that enable us to do things like judging if someone is approachable, introducing ourselves appropriately and maintaining a conversation. But for gifted children there are fewer occasions to interact with children who are similar to them. Social cues can certainly be learned from children who are not true peers, but misunderstandings can lead to diminished self-esteem in the gifted child.

For example, her teacher overheard 5-year-old highly gifted Sarah tell her classmates a joke, one with quite a verbally sophisticated punch line. The little girl was obviously crushed when no one laughed, and later, when the teacher asked her what was wrong, Sarah worried that something was wrong with her and that she had a bad sense of humor. This is a common experience for gifted children in "regular" classrooms. When gifted children are not understood by their classmates, you might imagine that they would become snobbish and look down on their age peers, and sometimes this is so. However, the opposite is usually the case. When misunderstood, gifted children generally think something is wrong with them as a person. I've heard children describe themselves as "broken," "bad" and "stupid" when sharing stories of being misunderstood. Had Sarah told that same joke to a class full of gifted peers, I have no doubt that she would have been rewarded with their laughter and internalized a positive message about herself and her good sense of humor.

Think about it logically. Assume that by "gifted child" we mean a child in the top 2% of his age peers in intelligence. How often will he get to practice his social skills with a true peer, that is to say another child not only close in chronological age but similar in cognitive development as well? Unless they are in a gifted program or a school specifically for the gifted, they might never meet. A gifted child might never have the opportunity to have a friend who truly understands him, who is, in his perspective, "just like me." In more rural areas, some gifted children grow up never knowing anyone who is like them. Imagine the long-term effect of such isolation and loneliness.

If a gifted child is identified early, placement in a school or class for the gifted, when available, is usually ideal. The benefits include not only the more rigorous curriculum, but also greater opportunity for social and emotional growth. In a child's early school years, it's important to the development of her sense of self that she feels her peer group understands and accepts her. We construct our identities, in large part, based on how we see ourselves as reflected back by other people's reactions to us. If a child can start out feeling socially competent among a group of peers, she can carry that positive internal identity of herself to where she will go in the future. When a child is not understood by her peers, and there is a lack of friendly interaction, the result is greatly reduced opportunity for social comparison, for the child to be taught appropriate social norms. This has serious implications for gifted children who have no contact with other gifted children.

Asynchronous Development

Gifted children's social and emotional development is not likely to be as advanced as their cognitive development. Suppose you have a 6-year-old son who's been accelerated to 2nd grade. Perhaps he's even reading higher-level material and doing 3rd grade math. Where do you expect his social development to be? In this area, he might be exactly age appropriate, perhaps advanced or even delayed. Contrary to one of the myths of giftedness, gifted children are not equally advanced in all areas of development.

This can also interfere with a child's ability to create and maintain friendships, regardless of matching apparent likenesses. Imagine pairing up two children of similar age and intelligence. One moderately gifted 5 year old might be ready to make compromises as

- continued on next page

Friends

continued

may be needed in a friendship, while the other moderately gifted 5-year-old child is still egocentric and expects what he wants, when he wants it. One child is ready to share and the other isn't. One child might be morally advanced and is hurt and mystified when the other child occasionally lies. With development at several different levels, asynchronous gifted children may have difficulty finding compatible friends.

For this reason, some gifted children like to have many different types of friends. One boy I've worked with, 10-year-old Ben, has what he calls "football friends" and "debate friends." His football friends are boys his age, about his size, in his neighborhood, with whom he can play all the rough-and-tumble sports and games he loves. But he doesn't expect these boys to provide everything he needs in his friends, and he satisfies his intellectual needs with friends of all sizes and ages. He can debate with these others who are, as he describes them, people who stretch his mind.

Just Too Much: Sensitivity and Intensity

Dabrowski (1967, 1972) states that sensitivity and intensity are part of the psychological composition of the gifted, and in my clinical experience with this population, I find this to be true. Gifted children tend to have their emotional volume turned up full blast, experiencing emotional highs and lows at a profound level. A social slight that might not faze other children will reduce an emotionally sensitive gifted child to tears. This can be disconcerting to a potential friend who fails to see the cause for emotional drama.

Parents can make an enormous difference in this area. When people outside of her family talked to Katherine, a young highly gifted girl, she was so very sensitive that often she was not able to respond or would tear up if their comments embarrassed her. Over time, her parents talked with her about this, helping her think of options she had when people spoke to her, even in the simplest of situations. For example, if someone commented to her that she was wearing a nice dress, she could say simply, "Thank you" or "My mother made it." They role played at home, where she felt safe. When she experimented with new behaviors in public, her parents praised her privately. Both her parents' comments and the social rewards she got from other people made her feel better about her ability to talk with strangers. While still a highly sensitive girl, she's now much more able to engage socially than she was before.

The intensity of many gifted children can also put potential friends off. A thirst for understanding things in depth, a passion for merging one's self with a subject of interest, an ability to concentrate intently for long periods of time are often typical. While these are positive traits for school and career, they can prove socially isolating. When 12-year-old Jessica, a homeschooled gifted girl, recently attended her first community science club meeting, she felt more comfortable quietly reading science fiction in a corner than she did relating with the other children, most of whom were also gifted. The club sponsor suspected Jessica was hiding behind her book. He could have been offended by her lack of attention to club matters, but, fortunately, he instead realized that she needed some help connecting with the other children. Rather than being painfully direct by asking her to introduce herself and dive right into the group dynamics, he saw a way to gradually connect her with the others. He asked her to read aloud from her book. It was a subtle bridge of energy and attention between her and the other students. After that, she was able to make eye contact and begin to talk with the other students. Jessica still has a ways to go with her social skills, but in that instance the teacher helped create a gentle lesson about connection for her.

When intense children are matched together with the right chemistry, powerful friendships can develop. The intensity they share can propel them on a lifelong journey of mutually meaningful experiences. They can nourish each other emotionally in ways that less intense people cannot. However, the more intense the child, the more difficult it can be to find that "soulmate" friend.

A mother of a highly gifted boy recently told me that she fears her son is just "too much" for other children. She listed his "faults": too emotional, too honest for his own good and just too intense. He sounds like many highly gifted children I've met. Although there are not vast numbers of children in this range, there are means for them to connect with each other. One way is the Hollingworth Center for Highly Gifted Children, a national

- continued on next page

Friends

continued

organization providing support and resources for families with highly gifted children (IQ 145 or above), through newsletters, regional support groups and an annual conference *(www.midcoast.com/~holo/hollingworth)*. While adults attend sessions on parenting and educating highly gifted children, children can attend sessions designed just for them.

Yet another way for gifted young people to meet is through a "talent search" program. Elementary and middle school students take out-of-level tests, such as the Scholastic Aptitude Test (SAT), and those who score in a certain range may apply to attend summer programs with other advanced students. These programs are held throughout the country at the University of Denver *(www.du.edu/education/ces/ces)*, Northwestern University *(www.ctd.nwu.edu)*, Duke University *(www.tip.duke.edu)* and Johns Hopkins University *(www.jhu.edu~gifted/cty)*. For some of these children and teenagers, attending one of these programs may be the first time they'll meet a peer who shares their interests, sees the world in a similar way or who shares their emotional intensity. Even if their future relationship may need to be conducted cross-country via e-mail or letters or be limited to summer visits, they no longer feel like aliens, knowing there are friends out there who understand them. For some gifted children, this makes all the difference in the world.

Maintaining Friendships

More than once, I have seen the perfectionism of gifted children unnecessarily break the bonds of friendship. A child connects with someone he likes and the two friends have a great relationship—for a while. When a disagreement occurs, they either have a huge argument resulting in the dramatic breakup of the friendship, or they begin to fight constantly, perhaps superficially making up until the friendship eventually dies. These children can have such a perfectionistic view of friendship, that if two people argue, they think it means they aren't supposed to be friends. As the adults in these children's lives, we can help them understand that working through conflict is actually an integral part of the deepest friendships. In my practice I teach children a model of relationships I've learned and which I find to be most effective (Figure 1).

A Circle of Friends: A Model for Relationships

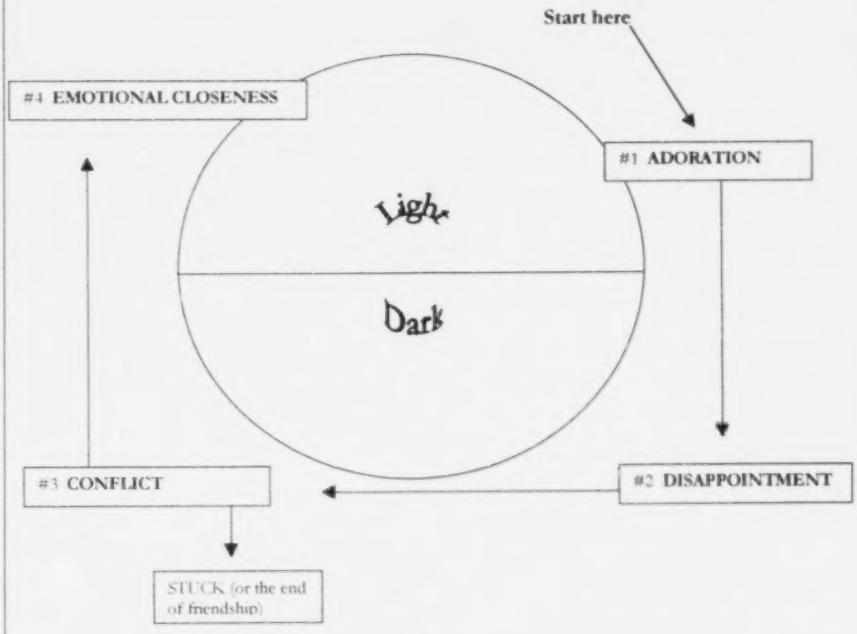


Figure 1

Copyright 1994 Tosi & Associates.
Used with permission, adapted from The Circle of Life

I've adapted this model of relationships to show children that friendships often start out with very positive feelings. There can almost be a thrill or a rush of excitement in finding a new friend. They discover things they have in common and the good feeling in having the other's admiration for the good things they offer as friends. I call this first stage Adoration.

- continued on next page

BEST COPY AVAILABLE

Friends

continued

Any two people who spend significant amounts of time together begin to see things they don't care for in the other person. They see that the other person isn't perfect and may not live up to previously held expectations. This second stage I call Disappointment. Compared to the first one, it feels darker, sadder. The next stage is where friendships either "make it or break it." How this stage, Conflict, is handled will determine the future of the relationship; there is a dark and vulnerable cast to it. Children easily get stuck in this phase, often resorting to name calling and personal insults. With gifted children, it can become a duel to see who has the sharpest tongue or the cruelest assortment of multi-syllabic vocabulary words. It can become an intellectual game to see who will "win." Sadly, unless they change their intent from winning to building a bridge between two friends, a relationship at this stage will either get stuck where it is, in conflict, or end. The breakup can happen immediately or it can feel like a slowing down of the friendship, with a lack of interest, or a lack of caring, perhaps a betrayal of someone who used to be so important in the other's life. Failure to successfully work through this stage can have serious future implications. Sullivan (1953) found that children who failed to establish a close, satisfying relationship in pre-adolescence had a significantly higher occurrence of chronic loneliness in later life. If two young friends can communicate effectively about what their disagreement is and find a way to compromise or come to a satisfactory agreement, they can move quickly through this stage and into the next.

The reward for making the effort to progress through conflict is intimacy. I call this stage Emotional Closeness. It's the gift we share with another person who knows us well and still likes us, despite our imperfections. This, however, is not a final resting point for a relationship.

A long lasting friendship will go through this cycle many, many times. But the friends are not just going in a circle. Conceptually, it's more of a spiral, with the emotional closeness achieving greater and greater depth with each go-round. If children are taught to effectively work through conflict, the deep connection they can form with another person is more nourishing to their sense of self than a round of applause from a roomful of strangers, more healing than any therapy done in a formal counseling office.

By helping children learn to communicate their needs effectively, and by teaching them how to work through conflict and not get stuck in it, adults offer children a great gift: the opportunity to have lasting, emotionally close friendships. It may seem silly to think about teaching children how to make and keep friends, but some children need that extra help. And gifted children, particularly, can have barriers that interfere with finding and maintaining relationships with true peers. When their high scholastic abilities are nourished, gifted children grow up with confidence in their capacity to learn and to succeed. The same can happen when attention is given to helping a gifted child with his or her social development. Adults who are entrusted with the care of these children have the responsibility to nurture not only the academic strengths of a child, but to help develop the potential of the whole person. ❖

References

Dabrowski, K. (1967). *Positive disintegration.* Boston: Little, Brown.

Dabrowski, K. (1972). *Psychoneurosis is not an illness.* London: Gryf.

Festinger, L. (1954). A theory of social comparsion processes. *Human Relations, 7,* 117-140.

Myers, I.B. (1962). *Manual: The Myers-Briggs type indicator.* Palo Alto: Consulting Psychology Press.

Piaget, J. (1932). *The moral judgment of the child.* London: Open Books.

Roffey, S., Tarrant, T., & Majors, K. (1994). *Young friends: Schools and friendship.* New York: Cassell.

Silverman, L.K. (1993). *Counseling the gifted and talented.* Denver: Love.

Sullivan, H.S. (1953). *The interpersonal theory of psychiatry.* New York: Norton.

Tosi & Associates (1994). Personal communication.

The Total Teacher for the Total Child

Mary Anna Thornton
Marilyn Wallace

As the Head and Assistant Head in a school for gifted children, we need to know what kind of teacher will succeed with the intellectually and artistically complex children our school attracts. Over the years, we've hired many teachers, watched them struggle and watched them succeed, and, having taught for a combined total of 30 years, and raised a total of four gifted boys, we've had many opportunities to contemplate the characteristics exemplified by excellent teachers. Knowing what these characteristics are is critical: first, for administrators who need to make sound hiring decisions that they and their students may have to live with for years to come; second, for parents of academically and creatively gifted children who need to know what to look for when analyzing the special programs they may have to turn to; and third, for teachers reaching to do the best they possibly can for these bright youngsters.

Over the century, many researchers have studied the qualities of successful teachers of the gifted, with variable results. Heath (1997), one of the most recent scholars to try to make sense of the volumes of research on the topic, concludes, rather disappointingly, that "...there is some consensus about the particular characteristics of teachers of the gifted, yet no single instrument appears adequate to reduce the number of possible teacher characteristics to a reasonable number that would be useful to educators" (p. 24). The list of characteristics is indeed a long one, and many of them overlap; but it only seems to make sense that teachers of very complex children need to be "similar in many respects to those they teach" (p. 4). Heath also asserts that "the research and literature have shown that the teacher has the most significant influence on gifted learners" (p. 23). Indeed those of us who work with gifted children or who were gifted children know what a positive influence a fine teacher can be (and, conversely, what a negative influence a poor teacher can be). Administrators need to be able to match gifted teachers to gifted students; parents need to be able to choose the right program, a determination that should be based in great part on the qualities of the staff. Teachers also need to know what a great teacher looks like so they can strive toward that goal.

What we find first in the literature is a firm declaration that teaching gifted children is difficult; gifted children are more complex than other children and therefore require a teacher to develop a very large repertoire of teaching techniques and to be prepared to encounter new types of behaviors at every turn (Lewis, 1984). "Renzulli's [1969] study asserted that teachers of the gifted will have relatively greater demands made upon them by vigorous and imaginative young minds; therefore, special attention must be given to the selection and training of teachers for the gifted" (Heath, 1997, p. 11). Because teaching gifted children is so difficult, teachers have to be extremely good at what they do. Consequently, the list of characteristics in the literature makes the successful teacher sound like a cross between the Dalai Lama and Robin

- continued on next page

Mary Anna Thornton *is Assistant Head of School at Creative Children's Academy in Palatine, Illinois. She has taught middle school and is the mother of two gifted boys.*

Marilyn Wallace *has been the Head Administrator at Creative Children's Academy in Palatine, Illinois for five years. She is the mother of two gifted boys.*

Total Teacher

continued

Williams! The characteristics that Heath found repeated throughout the literature include "openness," "flexibility," "a positive sense of self," "strong communication skills" and "intelligence and empathy." In addition, the teacher "must be able to imagine the thinking and feeling of the child in order to respond accurately." He must be "emotionally secure in order to withstand the rigors of intellectual bombardment and to enjoy the pursuit of the less well known...In addition, they should have a moderate to high energy level,...broad cultural sensitivity and curiosity" and "high intelligence" (pp. 3-5). Being physically close (willing to give encouraging pats and reassuring hugs) and using probing questions to stimulate deeper thought and discussion also are important (p. 16). Gifted students reported it most important that their teachers had, among other things, a good imagination and a strong sense of humor (p. 13).

All of these characteristics rang true to us based on our years of teaching, as well as observing and interacting with successful teachers. The characteristics we look for in teachers are similar.

Humor
This is first on our list because it is indispensable. Anybody working with any sort of child had better have a sense of humor at the ready, especially so for a teacher of the gifted. It enables one to laugh at and with the bright child's often sophisticated, but not always timely, humor; it allows one to enjoy the many bizarre or absurd moments in teaching, when a child or class reacts in a totally different or unexpected way to an experience; it enables a relaxed, warm presence in the classroom; and it allows one to laugh at, not take too seriously, and thus gain insight from one's own failures.

Flexibility and Tolerance
These two traits are closely linked to a sense of humor and are really just as important. All children are full of surprises, but gifted children are especially unpredictable; at some moments, their reactions seem almost unfathomable. Heightened sensitivity and high emotions are the order of the day. Especially in the younger, highly gifted child, sudden tears, intense fears and odd habits are to be expected. Flexibility and tolerance are crucial in appreciating these children, looking for and magnifying their good traits and refraining from labeling them as overly demanding and uncontrollable.

Intellectual Gifts and Creative Talents
A teacher who has her own intellectual gifts and creative talents will not be threatened by a child who is highly intelligent and talented. Furthermore, she will be able to pass on to students her own excitement for her special areas of interest. The teacher must also acknowledge the interests and gifts of the child and encourage the pursuit of knowledge that may hold no appeal for the teacher.

Compassion
Teachers must truly feel compassion for the child who is misbehaving. Compassion is the first step toward asking what's wrong in the situation, toward analyzing the problem and helping the child find a solution. The compassionate teacher never rejects the problematic child or trivializes his concerns, but instead reaches out to him and seeks to understand him.

Humility
The humble teacher is always willing to admit his/her limitations and errors and to try out new things in an effort to make things better. This trait is, perhaps at first glance paradoxically, really one facet of self-confidence. It takes a great deal of self-confidence to admit one's mistakes, pick oneself up and laugh at one's errors and then take the risk of trying something totally new. It is also important to discuss with the children one's own weaknesses, whether it was yesterday's lesson plan that went totally awry or a particular academic skill that the teacher struggled with at one time (or still does). Children trust teachers who share vulnerabilities and so are more likely to risk sharing their own weaknesses.

Analytical/Inquisitive Qualities
The successful teacher is always asking, "What went wrong?" "Why would that child react that way?" "What could I try now?" She enjoys the challenge of figuring out a puzzling child or a challenging classroom. To teach gifted children well, one must know them well as individuals. That means analyzing at length—asking the right questions of the children and their parents and really listening to the answers.

- continued on next page

Total Teacher

continued

Emotional Steadiness

Because gifted children can be very demonstrative emotionally, the adults they work with, while remaining empathetic, must help keep them on an even keel by modeling socially acceptable ways to express feelings. Interacting with colleagues harmoniously, approaching conflicts with the goal of joint problem-solving, planning and organizing activities systematically and not sweating the small stuff can help an intense child muster restraint and avoid an embarrassing outburst. Many gifted children are a joy to work with: cooperative, self-motivated, resourceful. But a teacher's mettle is tested by the difficult child, not by the easy one. Teachers should judge their teaching by how well they have succeeded with the most challenging of children.

Here are stories of a few of the most difficult children we have worked with and yet with whom we managed to succeed. John came to us as a 3rd grader from a parochial school where, according to his parents, he had earned notoriety by hiding under his desk and croaking like a frog. His parents also reported that his behavior was so unusual, and at times irritating, that they found it difficult to take him out in public. By the time I (Mary Anna) encountered John as a 5th grader, he was no longer hiding under desks but still had moments of bizarre behavior. As I got to know him, it became clear that the behavior was primarily the result of a brilliant and unusual sense of humor. John was one of the funniest people I had ever met, yet, as a child, he could not control his outbursts of humorous insight or his urges to engage in broad physical humor. He could not resist making bitingly sarcastic (and very witty) remarks about his classmates, nor could he curb his occasional urges to divert the class's attention from me to him by making wild physical gyrations. Worse yet, I taught the subjects he liked the least; while he loved math, he saw language arts and history as a burden. Confrontation and timeouts did not work with this strong-willed child; he just wouldn't stop. I was saved from insanity in the first few months of our acquaintance by four things: 1) I understood his humor and appreciated its brilliance; 2) I believed that this humor was a great gift and should be managed but not extinguished; 3) I found him extremely interesting and spent quite a bit of time trying to figure him out; and 4) I was willing to try out a variety of teaching methods. John was funnier and more engaging than I was, and so it was hard to do much lecturing while he was in the room, so I more or less gave up the lecture approach. After trying a variety of approaches, I found that John and the entire class worked best when engaged deeply in individualized, creative projects (John loved art and was an accomplished artist). We had a very productive year once I hit upon this technique, and I learned a lot about teaching. I survived this very real crisis through tolerance, my own sense of humor, along with my willingness to admit defeat and try something new. I taught John for four years, and in that time I came to know him extremely well; the better I knew him and the closer we became, the better he responded to me and the easier it was to redirect or correct his behavior. John thrived at our school, and by the time he graduated in 8th grade, his behavior had calmed down a great deal. He is doing very well in all-honors courses at a local high school. He visits us frequently and is now a tall, quiet and dignified young man who turns red when we tease him (just a little) about his earlier behavior. He's too shy with me now to show me his sense of humor, but his father tells me it has survived his childhood unscathed, and I think that's important.

Extremely high intelligence often comes with quirks that require great tolerance from the supervising teacher; these tend to diminish as the child matures into young adulthood, especially when those around the child respond calmly. Scott, for example, had a need to touch the adult with whom he was talking (stroke an arm, finger fabric and put hands in the other's pockets). We, of course, had to give him guidelines and let him know when he stepped over the line of socially acceptable behavior (we knew that most other adults would find his mannerisms upsetting); but there was no horror or condemnation, and eventually his need to touch diminished.

Not all gifted children have dynamic personalities. Many introverts are unwilling to share their ideas and talents until quite sure they will not be ridiculed (extremely sensitive as they are to what others are thinking about them). At age 4 Mike refused to participate for almost a full school year in class activities that delighted the other children: songs and games, imaginary play, repetition of French words and phrases, even though he engaged in these at home. The teacher

- *continued on next page*

Total Teacher

continued

allowed him to watch and wait, respecting his preference for careful observation and lightly encouraging him to think about trying it "next time." In this the teacher was a perfect role model for the other students: they didn't tug at him to join in or even ask why he wasn't participating. Nor were there any ominous reports to Mike's parents of antisocial behavior or not seeing any signs of giftedness. Providing this kind of support to a young, rather fragile boy, enabled him to thrive with a very dynamic intermediate teacher later on, who demanded more of him than any other teacher had. He rose to the occasion and found new confidence in his abilities. He also eventually joined the school choir, marching band, basketball team and student council. His sensitivity to what others are thinking of him still exists, but it no longer limits his energetic contribution to school activities.

Willfulness, like sensitivity, is a frequent companion to intellectual giftedness and is best met by flexibility. It seems to be human nature to try to overpower a willful child. Yet as anyone who has engaged in a struggle for control with a very strong-willed child can attest, it is hard to beat such a child at her own game. Nor does battling it out with a strong-willed child teach her much of use. It's best for the teacher to reframe willfulness in positive ways —as a nascent strength of character that should be guided but not stamped out—and seek alternatives to confrontations. Ultimately, you have to convince the child that you are on her side and help her see that there is no need to take up arms. This requires spending time with the child to get to know her, demonstrating interest and empathy and making it clear that the teacher is not personally invested in controlling the child. Laura was a perfect example of an extremely strong-willed child. She came to us in 4th grade, already a master at avoiding work. She and her English teacher almost immediately began to engage in a daily battle over her journal. The teacher insisted that she write in her journal; Laura wouldn't. Day after day, the other children wrote in theirs while Laura doodled in hers. She didn't do any other work for her English teacher either, whether at home or in school. She never said "no" or made a scene; she just never did it....ever. Despite her quiet demeanor, it was clear to the English teacher (from the child's air of smug self-satisfaction) that Laura knew she was engaged in a battle and that she knew she was winning. The English teacher became obsessed with making her write in that journal. Calls home to her parents only deepened the conflict. Now not only was the English teacher locked into a battle with Laura over the journal, but the parents were, too. Finally the teacher went to her principal, admitting she was failing this student, and asked for help. The principal said simply, "So don't make her write in her journal. Obviously it's not working. Try something else. If she has to doodle for 10 minutes while everyone else writes, she has to doodle. It's not the end of the world." This simple advice changed the whole situation. The English teacher dropped the struggle, quietly explaining to Laura one day that if she really couldn't think of anything to write it was all right. Stepping away allowed the teacher to start fresh and to see Laura in a different light. Although she was never an extremely productive child, Laura and the English teacher went on to develop a trusting working relationship, which never could have happened had the Battle of the Journal continued. Laura, the teacher discovered, worked better for her if she could make time to talk over projects quietly and privately with her, giving her time to express her own ideas and to feel heard. Laura was never a disruptive child, but if she felt pushed to do something with which she was uncomfortable, she would refuse to work, and nothing could force her to produce.

Lack of production is frequently confused with misbehavior. Teachers are especially likely to be bothered by a lack of production in the child who is obviously gifted, and in this situation they are especially likely to make the error of trying to force productivity by labeling the lack of it as misbehavior. In the above situation, Laura was really never misbehaving. She was usually quiet. But her lack of compliance with demands to produce was interpreted by the teacher as misbehavior, and the battle ensued. Children have to be comfortable to produce. Making a strong-willed, sensitive child feel heard, accepted and comfortable will help her be productive. How could engaging in a struggle for control possibly help a child feel comfortable enough to write creatively?

Recently a little girl came to us with quite a record for an 8 year old. Teacher recommendation forms from her old school were

BEST COPY AVAILABLE

- continued on next page

Total teacher

continued

sadly negative, filled with ominous notes about misbehavior. Brianna's parents were at their wit's end because their little girl was so unhappy and often so difficult. During her preliminary two-day visit at our school (an admission requirement), she ended up in several playground scrapes and surprised us by her aggressiveness. Nevertheless, we accepted her because we suspected that she had not been handled properly by previous teachers and that, at 8, with the proper guidance, she was still young enough to make great changes. Initially, she was difficult: reluctant to comply, aggressive with the other students, a braggart. Over several weeks in our school, however, she gradually settled down and blossomed. Her mother called me repeatedly, nearly in tears, to thank us for our success with her daughter. I asked her teacher, a very experienced teacher of gifted children, what she had done that had helped Brianna settle down and feel comfortable. She answered that it was clear to her practically from the moment Brianna walked into the room that the little girl could not be pushed into doing anything. The teacher decided to take a very compassionate and gentle approach, letting issues drop for the moment if Brianna seemed inclined to try to turn them into power struggles, as well as taking many brief opportunities to sit down with Brianna one-on-one and offer her genuine interest and support. Of course, Brianna was not allowed to bully or hit other children; these issues were dealt with in a low-key way, in private if at all possible because, if around other children, Brianna would play to the audience and couldn't bring herself to capitulate to the teacher. In a relatively short time, the teacher won Brianna's trust, and the little girl came to adore her. The behavior problems rapidly diminished, although Brianna remains a strong-willed girl.

To teach gifted children well, one must know them well as individuals.

Being strong-willed is not a bad thing, especially in girls, who will have plenty of real struggles to contend with as they mature and move into careers. We want to temper their willfulness without diminishing their strength. Productivity can often be spurred on by a teacher sharing her own talents and passions with children.

Like many bright little boys, William, a 3rd grader, was frustrated by the slow mechanical process of writing; whether he was typing or using a pencil, his hands were just not fast enough to keep up with his ideas, and he was so disgusted with the whole process that he would rarely write more than a few short, uninspired sentences. This lack of productivity was a frustration for everybody —for his teacher and parents, who knew William had an IQ near 200 and was abrim with creative ideas, and for William himself, who knew he was not doing what his parents and teachers wanted or what the children around him seemed to do much more easily. A great deal of tension developed between William and his teacher who, like Laura's teacher, saw willfulness in his lack of productivity. In 4th grade, William was assigned to a teacher who shared his passion for fantasy. She read the children fantasy tales, drew fantastical pictures of imaginary creatures for them and dramatically invited them to create their own fantasies. William's parents were shocked when pages and pages of complex, refined prose began to pour out of their son, who had heretofore seemed unable to write. The writing skills had obviously been there all the time—he just had needed the proper catalyst, the proper invitation, to bring them out.

In a similar situation, Mark, a 5th grader, was known at the school as difficult—particular about everything, hard to warm up to, contrary. His 5th grade teacher, however, shared a love with him —the violin. Mark was a gifted musician, a surprise to all of the teachers, who thought of him as rather uptight and lacking in

- continued on next page

Total Teacher

continued

creativity. His new teacher offered to stay after school with him to play duets, and a lovely relationship blossomed. Mark cooperated as he never had before, and this teacher was able to see him in a far more positive light than had any previous teacher. They enjoyed one another immensely and became very close through their musical companionship. Mark had his best year ever at the school; no one ever was able to come as close to him as his violin-playing teacher had.

We strongly believe that cultivating the personal qualities and relationships described above takes precedence over all else that occurs in the educational process. Personal relationships have to gel before academic work can get done. Gifted children in particular are looking for close relationships because it's often difficult for them to form close ties with age peers. These children treasure that personal closeness; and once you have established trust and mutual respect, you can call them on their missteps and spur them on to new challenges.

We recommend that administrators ask many questions during interviews about prospective teachers' personal values. We ask interviewees for stories about their most difficult students and for detailed information about their pastimes, listening closely for evidence of the traits listed above. We also require that all prospective teachers teach for us, and we watch their interactions with the children for signs of personal warmth and a sense of humor. Although experience is an important factor in successful teaching, we would much rather hire an inexperienced teacher with depth of character than an experienced teacher who is no longer interested in personal and professional growth. We encourage our teachers to engage in self-reflection. Different individuals may follow different paths in the quest to become the "total teacher." Some may find their religious background to be fertile soil for the development of humility, compassion and tolerance; others may feel more comfortable reading literature from the fields of psychology or communication, or reflecting on their personal shortcomings with the help of a counselor; still others may strictly want to follow the more traditional path of taking education courses or workshops, reading educational books and journals and observing master teachers. ❖

References

Heath, W.J. (1997). *What are the most effective characteristics of teachers of the gifted?* Eugene, OR: ERIC Clearinghouse on Educational Management.

Lewis, G. (1984). Alternatives to acceleration for the highly gifted. *Roeper Review*, 6(9), 133-136.

Renzulli, J.S. (1969). Identifying key features in programs for the gifted. *Exceptional Children*, 35(10), 221-271.

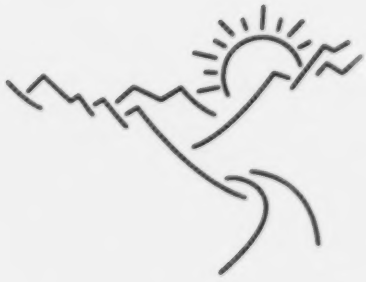
A Road Less Traveled

Lorraine Hoyt

Yet knowing how way leads on to way,
I doubted if I should ever come back.

After a couple years out of the gifted fray I have come back, and, listening to the questions and the problems and the debates, I realize how far the path we chose 12 years ago has led and doubt if we shall ever get back. My first-born was 4 when we first acknowledged that perhaps her reading and writing stories was going to be a problem in another year when she would be school-age. Now she is 16 and the question is college. I don't have all the answers now any more than I did then, but I do have some more idea how to live with the questions. I feel more curiosity and less panic about the road ahead.

In the beginning I didn't want her to be gifted, didn't want the label in the way of who she was. For a brief while I was consoled by her baby brother, four years younger and very different and surely "normal." But gradually I realized I needed to know more about others like my daughter, needed to help her understand the way she was different. I read the literature, went to conferences, joined gifted associations. I was comforted to learn that we were not alone, that other people also had "weird" children. I was disconcerted to be told that these kids needed testing and probably psychological intervention and would cost twice as much to rear as "normal" children. I was intrigued to hear that one option was simply not to send them to school when they reached the age at which society assumed they should go.



Not going to school seemed a suitable solution since there hadn't really been a problem until Joanna approached school age and it became evident she wouldn't fit there. As my children grew, sometimes friends or family or total strangers informed me that they were weird or unusual or different. That didn't worry me much. I had always been considered so and I figured it was inherited like their brown eyes and could be lived with. Some folks found these children too outspoken or prone to question or indignant about injustice. But I liked their quirkiness and mostly enjoyed the questions and shared their outrage.

Of course folks called our chosen path homeschooling and assumed it looked something like schooling as they experienced it, but the truth is we just went on living as if it didn't matter particularly about age and grade levels. For a while each child went to school part-time. Joanna went to art and music and gym with the other kindergarten children and the next year added in computer lab and some enrichment classes with older students. Over the next couple years the scheduling became difficult and she continued learning at a faster rate than that anticipated by the school until the classes no longer worked. Zachary only went to art and gym with kindergarten peers, and the next year the schedule didn't work for us at all. In the beginning we tried to explain how we live and learn in ways that would make sense to the officials in

- continued on next page

Lorraine Hoyt *lives and writes and ponders in Raymond, Maine.*

A Road

continued

charge of "equivalent instruction" in our state, but we simply declined to specify a grade level or to designate certain days as school days. I tried to describe the things we were doing and learning in ways that would be recognizable as language arts and math and history and science, but in my mind and in our lives they tended to run together and to be indistinguishable from "extra-curricular" activities. After a while we were too involved in our living and learning to worry about such things which no longer seemed very important.

The hardest thing is to describe to anyone who cares enough to really listen to the answer what it is we do in our real lives. We live. Breathe in, breathe out. Zachary builds and Joanna tells stories. That much is clear. We go to the National Historical Park in Lowell and learn of the early textile mills and the water system that powered them and the immigrants who toiled in them. We come home and Zach builds the machinery out of Technics while his sister reads biographies of the workers or writes laments for them. He wonders how each part worked and she wonders how each person felt, and as they talk the experience over they enrich each other with their musings and enthusiasm. How does anyone explain these threads that are twisted into a day, woven into a life? This is a life lived whole, not a program nor a curriculum. There is no catalogue or Web site. And if someone else gave their children the spaces I have given mine, what would emerge would not be at all the same. Each child would be very different in a way that is unimaginable to those who think in terms of discrete subjects and academic levels.

This doesn't mean that we aren't always looking for new pieces we need, only that we must put them together ourselves to fit the unique children growing and learning in this home. I pleaded with the person setting up an after-school rocketry class to let Zach attend in spite of his not meeting the age requirement. We sent him to Saturday "sky school" at a private school nearby. We have stacks of book catalogues, and we frequent four different libraries. Mentors and pen pals work especially well for Joanna who loves to write. She doesn't need someone right here the way Zach does for designing rockets or building model planes. Authors and math professors and college students have given their time and seem to enjoy their exchanges with Joanna, perhaps because she is seeking not to fill an assignment or earn a grade but simply to explore her most pressing questions. And many of their needs are met simply by my having the time to talk with them, listen to them, read or build or ponder with them. Peers can be family as well as age-mates, and I think it gives my children a solid base to spend so much time in a place where thinking quickly and divergently *is* the norm.

We've been told that our children are wasting their potential. For that matter, some folks think I am wasting my potential. I'm not sure that I fully understand the reasoning, but it seems to be that the point of life is to get ahead of someone else and that it is irresponsible not to use whatever power one has to that end. Going to school is important to prepare one for college which is essential to prepare one for a career which is ahead in terms of prestige and income. Intelligence is a sort of power and not to use it as a head start in this game is to waste one's potential.

By walking away from certain common societal institutions, we've come to the conclusion that some of what "everyone" does isn't necessary. So there are many goods and many opportunities that we look at and decide to do without. Kind and well-meaning people often point out to me some class or product or program that would be "wonderful" for my children because they are "so smart, so enthusiastic." But how many wonderful whatevers do we need, can we actually benefit from? How much is enough? What would we give up in order to have the product or take the class? Trying to explain this to them is like trying to explain the value of a forest to a forester. I see the forest as a whole, as light and shadow and evening breeze and birdsong and saplings and snags and footprints telling stories in the snow or mud for any who can read them. I don't see board feet and market value and some portion of the deer herd available for harvest.

There are no advertisements for silence. And yet it is in the silence that I see the potential of my children unfolding. I see my work in raising them as the protection of space in which they can become themselves. We have time to talk about the things we're reading and time to read aloud and to read silently and to write

- continued on next page

A Road

continued

actual letters. We somehow stepped outside the hurry to a place where there is time to think about who we are and what is worth doing. We take long walks in the woods and tend gardens and harvest wild herbs and watch the birds through the seasons. We have time to make music and hear music and to draw and to notice the subtle changes of light and color just outside our door. We have time to visit elderly relatives and friends and learn from their wisdom, time to read stories to and hear stories from African immigrant children new to our community.

Somehow with Joanna now 16 and Zachary almost as tall as I am, there is a new sense of urgency in me. I wonder sometimes about this alternate route we've followed. I wonder what sorts of choices they each will make when they are grown and gone from this home and whether they'll regret or resent this path we've traveled. I remember how hard others worked to get me to conform and how I never did quite fit the expectations others had of me. I wonder if these two I love will be lonelier than is necessary or natural. They seem quite strong and able to understand that loneliness is part of being human. They seem to me both independent and respectful. Perhaps it is because of all the biographies we read of people who didn't quite fit. I hope the conversations about what the neighbors might have thought of Thoreau and what he did with his potential will give them courage to stay on whatever path they choose for themselves. I hope they will remember John Woolman when they see injustice where others see only custom. I have little doubt that they will be able to learn easily whatever specific bodies of knowledge they need to pursue their work and their dreams.

I wish someone had told me years ago that there were many ways of handling giftedness. Although testing is widely recommended in publications and conferences, we more stumbled into it than chose it deliberately. Joanna was tested at 9 at the request of an expert who had been very helpful to us in many ways. Zach was tested two years later simply because I didn't want to discriminate, to have one child "identified" and the other not. The results have not been important to us in making choices. The only time I tried to use the results, when Joanna wanted to take college courses, they were discounted or ignored, and I was told to get a life instead of pushing my daughter. The numbers have been useful to me when I listen to descriptions of some level of giftedness expounded by the very people who value the numbers, but they don't fit my children well at all. And my son's testing, including achievement as well as IQ assessment, done at a time when he had had virtually no instruction other than having his questions answered, gave me proof of a kind others value that learning does not depend on curriculum and programmed instruction. But these are not the reasons usually put forth when testing is urged.

With experts on gifted, we have had a mixed experience. I would have sent my daughter to school, at least in the beginning, without the advice of an expert that homeschooling was a good option. That same person has helped us connect with mentors and find materials and offered support and reassurance as we dealt with the differences in our children. But from various professionals at conferences I attended, I heard more warnings against that choice than advocacy for it, and much of the material offered in presentations and articles was about issues peculiar to schooling.

We had one quite negative experience of being research subjects, which culminated in our withdrawal from the gifted community for a few years. The researcher did not understand our non-traditional approach and we felt misrepresented in her published work. Preservation of our anonymity precluded our setting the record straight, and we had disagreements concerning her continued use of our story which were never satisfactorily resolved. The experience left me wondering how accurate other portrayals of profoundly gifted subjects actually are, as well as leaving us uncomfortable participating in venues that included this individual, and it raised questions in my mind about the effect that any involvement in research has on these very sensitive children.

Publicity is often warned against, but our experience with *Education Week* was fun and not at all traumatic. A few minor points were misquoted, but overall the piece represented us fairly well. Most important to me, my children enjoyed the reporter and came away from the interviews and from reading the printed article feeling positive and comfortable instead of angry and used as

- continued on next page

A Road

continued

they had in the former situation.

The other conventional wisdom about raising gifted children with which I take issue is that it takes twice as much money to raise them. This is also a pet peeve of mine in the wider culture—the way advertising is used to play on people's fears. We are so easily hooked into believing that we need various goods and services. Parents of gifted children are often anxious and confused as they first realize that their children are different and are easily persuaded that all sorts of interventions are needed. Obviously some folks enjoy having all the latest and keeping ahead of the pack, but I think these kids can be raised without massive expenditures. We budget one hundred dollars each month for education. Mostly it is spent for books and subscriptions to periodicals, museum memberships and raw materials for whatever someone is making at the moment. It feels quite adequate to us. Of course time is money, according to some, and it is true that we invest lots of that. We have found wonderful people who are willing to give of their time to help when we get stuck. A college professor helped Joanna from time to time when she was teaching herself calculus. He seemed to enjoy the experience, especially when he realized that she cared about understanding the underlying principles and not just getting the right answer. And we learn ourselves from the times we are able to share the things we know and love with someone else who is just beginning to be interested in them.

I don't mean to imply that any children should be left without resources. I wonder about the gifted children who don't have the basics of books and paper and access to wild places or to computers or to museums. And when I insist on the value of silence and time to do nothing, I do not mean that children should be shut up in schools and then told to be silent and do nothing while the others do work they have long since finished. And I do not mean that all who participate in research end up feeling like specimens, nor that testing is never useful. I only hope to offer a balance to the voices I've heard for so long.

This is the path we have taken and this is how it has been for us; these are possibilities for others as well. I think all parents need to find the time somehow in all the hurry and hustle to ask ourselves what we really hope for our children. And the choices we make need to grow out of those questions, not out of the insistent commercial voices or out of what everyone else seems to be doing.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

Robert Frost

Visit Open Space Communications Online

www.openspacecomm.com

BEST COPY AVAILABLE

Carousel

Cal Roberts

Authenticity

The first words in Moore's (1992) introduction to *The Care of the Soul* read, "The great malady of the twentieth century, implicated in all of our troubles and affecting us individually and socially, is 'loss of soul.' When soul is neglected, it doesn't just go away; it appears symptomatically in obsessions, addictions, violence and loss of meaning" (p. 11). In this, I believe Moore is talking about the loss of an individual's authenticity.

Authenticity might be defined as being true to oneself and one's abilities, being true to one's soul. In the milieu of the home, the classroom and society at large, how many of us focus first on the fundamental importance of developing authenticity in gifted children and use that as the compass in guiding our interactions with them?

Inaccurate reflections of self are something gifted children are exposed to from a very early age. Long before they have the scope of years and experience to use in making sense of others' reactions to them, they too often encounter a panoply of reactions based on misunderstandings of giftedness: surprise, disdain, fear and competition, to name but a few. People are often threatened by gifted children, and their ensuing behavior towards the gifted can do great damage to the developing child who is innocently expressing his/her true nature to the world. Many adults, either close to the child or not, are often blind to the impact they have on a young life.

My elder son learned to say "hi" at an exceptionally young age, so young that many people would consider it impossible. When people approached him, inevitably they'd say hi to him and he'd respond in kind. The responses he received to his salutation ran the gamut from a surprised scream (which made him cry), to gasps, to ignoring him completely and speaking to me with awe or concern. None of these things felt good to any of us adults. Nor did they to my son, and within a week, he'd stopped saying hi.

Not only does a lack of support for their authentic selves show up in the lives of gifted children, it is also apparent in the lack of accommodation for their abilities in school. We, as parents and educators, extol the virtues of good education, while at the same time making it terribly difficult for the gifted to experience learning in a way that is authentic. Intentionally or not, these children are too often held back from learning as much or as fast as they want to, as they need to. Sometimes it's out of boredom, sometimes from having become jaded early on, that these bright children figure they'll get more mileage out of being the class clown than by developing their talents. Or, and again it happens too often, they turn into troublemakers and use their talents accordingly. One prevalent misconception about the gifted is that they have

***Cal Roberts**, a freelance writer from Boulder, Colorado, is the mother and home educator of two gifted children.*

- continued on next page

Authenticity

continued

it better than the rest of us because they're so smart. Most gifted children begin to show symptoms, such as the ones Moore (1992) mentioned, earlier than others because we often neglect to recognize and nurture critical aspects of them—their unusual intellectual tools and their selves which are so out of sync with their age peers and our own comfort levels. We encourage, and often force, them to adapt in ways that render a true understanding of themselves as authentic learners difficult, if not impossible. Is that having it better?

Gifted children often excite controversy because they challenge so many of our dearly held notions. By their very existence, they force us to look at the nature of equality more closely and to accept right off that there are differences between people which require accommodation. Equality in education should mean that all students learn something, not that all students learn the same thing every day. But this seems to be a difficult concept for many to grasp. It's inconvenient, for one thing, often translating into requests for more resources from school districts, more work on the part of teachers and more focus on really connecting authentically with all students. "Quite often we are faced here with gifted [individuals] who have been praised and admired for their talents and their achievements...According to prevailing, general attitudes, these people, the pride of their parents, should have had a strong and stable sense of self-assurance. But exactly the opposite is the case...Their relationship to their own childhood's emotional world...is characterized by lack of respect..." (Moore, 1992, p. 6).

That's something most any parent of a gifted child can confirm; lack of respect shows up everywhere, from the classroom to Congress. This is what many, if not most, gifted children face in environments in which they dare to risk being their true selves. Imagine for a moment, a skill you possess, one you love and find so engrossing that your sense of time dissolves and you lose yourself in your task completely (what Csikszentmihalyi [1993] refers to as "flow"). Now imagine a time when you wanted to share it and how you felt about it. Didn't you want to see, reflected in the faces of others, some understanding and appreciation for your experience? Then imagine that the person to whom you looked for recognition, acceptance and appreciation instead expressed disgust, fear, disbelief or impatience with your treasured experience. This is often, far too often, the experience of the gifted child. Imagine the disheartened child's confusion.

Those who live and work with gifted children must recognize the critical importance of mirroring who the child really is, even if it's inconvenient or uncomfortable, even if we don't have an immediate answer to the unique needs or problems they present us with, even if we cannot always understand them.

"Another relationship of great importance to the growth of the individual and of even greater importance to the good of society still cries out for study but remains generally neglected. Despite the fact that millions of children and thousands of adults are daily pressed into a student-teacher relationship, we know very little about their interactions and the influences they have on each other. There is as much intellectual intimacy in the teaching-learning relationship as there is emotional intimacy in the husband-wife relationship" (Holt, 1995, pp. 9-10). Oftentimes when we perceive others as having something different, special or better than we do, we tend to assume that their needs, whatever they may be, have been taken care of. Or, we assume they're already better off and should be able to weather any rough spots on their own. The problem with this way of looking at gifted children is that it invalidates their experience and leaves them without the support critical to the development of any child. All people, no matter

- continued on next page

Authenticity

continued

how talented, need connection and support. But a child who hears, "If you're so gifted, figure it out yourself," will sense the aggression behind that statement and either hide or stop asking.

Whether as parent, teacher, boss or peer, we often shy away from the work of really understanding and appreciating that which is different, so it's not surprising that we also do this with others who are different. As we do so, we ask gifted children, and especially the highly gifted, to turn away from self and accept that they have no place. When children choose to turn away from the self and focus all their efforts on "fitting in," they lose themselves, their truest selves. It's not so much their sense of "self-esteem" that's lost, although that is a part of it; it's the sense of being and valuing what one is, what tools one has to work with. Self-esteem would naturally follow if children developed an authentic sense of self. Do we really value fitting in so much more than we value authenticity?

When gifted children hide their authentic selves, they begin to practice living a false life. Often this means they "dumb down" to the level of their peers in order to stay safe—safe from teachers who make sarcastic, insensitive comments, from other children who pick up on the culture's attitude toward giftedness and perpetuate the alienation and from parents who have no idea how painful school has become for their child. Dumbing down begins a cycle of underachievement and manipulation that many gifted people carry through their whole lives. One 13 year old recently said to me, "I pretend that I know nothing. Then people don't get scared, and I can figure out how to manipulate the situation to get what I need." Notice he used the word need, not want....*need*. He's one of the lucky ones, one of the kids who is adapting but not completely losing his dreams in the process. But what is this young man learning? He's learning to manipulate to get his needs met. Other gifted children become sick, manifesting any number of symptoms such as headaches, stomachaches or worse in order to get what they need. I can't help but wonder why anyone should have to manipulate or become ill in order to have needs met.

"For the majority of sensitive people, the true self remains hidden. But how can you love something you do not know, something that has never been loved? So it is that many a gifted person lives without any notion of his or her true self" (Miller, 1982, p. 16). Those who live and work with gifted children must recognize the critical importance of mirroring who the child really is, even if it's inconvenient or uncomfortable, even if we don't have an immediate answer to the unique needs or problems they present us with, even if we cannot always understand them. We can opt to be true reflectors of their unique selves and talents by stopping habitual ways of thinking about giftedness long enough to see the developing human being as a precious work in progress. "What happens when people aren't able to operate at full capacity, when their opportunities are either too few or too daunting to experience flow? What typically occurs under such conditions is that people are drawn to activities that are wasteful or destructive, and in such cases, the result of seeking enjoyment is entropy, rather than harmony" (Csikszentmihalyi, 1993, p. 197). The most important thing any adult can undertake in working or living with the gifted is a thorough examination of his/her beliefs about human differences and the value of developing authenticity in all children. It takes a great deal of courage for the gifted child to choose authenticity over a false self, and we too need to show courage in advocating for them towards this worthy end. ❖

References

Csikszentmihalyi, M. (1993). *The evolving self.* New York: Harper Collins.
Holt, J.C. (1995). *How children fail.* Menlo Park, CA: Addison Wesley.
Miller, A. (1982). *Drama of the gifted child.* New York: Basic Books.
Moore, T. (1992). *Care of the Soul.* New York: Harper Collins.

ParentSpace

Laura Goodman

Proclamation of Differences

I get so tired of living in fear of saying something politically incorrect and thereby offending someone. So, however un-PC it may be, brazenly I will assert here in print, perhaps speaking for many of us, what I find to be a matter of veritable reality: the phenomenon of raising gifted children is a significantly different one from raising their "typical" peers. That's conventional wisdom in some camps, heresy in others. Though it may be touched on somewhat in the literature, I offer it here as simple, common truth gleaned from 12 years of first-hand experience in my own house, juxtaposed on daily living in the larger world and comparing and contrasting typical and gifted individuals and situations. What occurs to me at the same time is that what a family with gifted children looks like from the outside very often has little to do with how it really *is* on the inside. This is a matter of real and inherent differences, how they translate into ordinary life and how all that is perceived. No matter what people think they see and know, the truth is, among children, the gifted comprise a distinct and challenging subset, so that a household in which they live is, by definition, different from one with "typical" resident youngsters.

Illustrations abound. Two 7-year-old friends take up Tae Kwon Do together; what do parents do with the one who then *insists* on learning Korean in addition to all those trips to the dojo? What's to be done about a 4 year old who *must* paint and, literally, covers the house walls with her paintings? What of the 10 year old who shuns socializing with other children in favor of sitting at his computer and learning to program? I could go on indefinitely offering examples and asking such questions about such children, but you know them—they are your own and mine. Indeed, there are as many stories as there are gifted children, individuals all, each bringing his or her gifts to bear in this world in infinite and unique ways. But there are commonalities, too. Just as the gifted themselves are more intense, more given to vast extremes in any number of areas, more demanding, so living and dealing with them is a more intense proposition and presents different, and often fiercer, challenges to us as parents.

It's seldom a quick or easy process to strike the balance of what a child or a number of gifted children in a single family need. As a matter of fact, it's complicated and wearying just to zero in on those needs in order to even begin to work on establishing that balance. And then, as so often happens, we have to do it all over again when it all changes completely. The extreme complexity and resistance to situational complacency are why considering the total gifted child gets so tricky and parenting one so intensive and time-consuming. And maybe that's why it's so hard to understand from the outside.

In many contemporary circles floats a popular maxim declaring

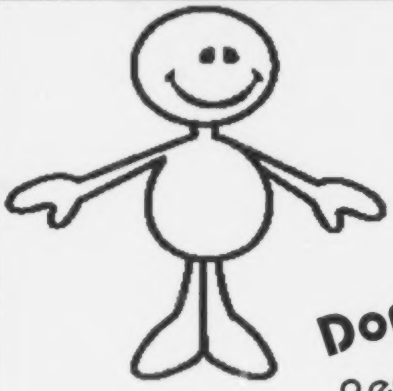
- continued on next page

***Laura Goodman** is the editor of Understanding Our Gifted, a fiction writer and the homeschooling parent of a gifted child. She lives in Seattle, Washington.*

that all children are gifted, but I can't agree; to me, this is thinking that flies in the face of reason and reality. There's no questioning that every child is an individual with his or her store of special things to offer, but it also seems just as clear that brain power comes in some very different mixes and amounts, and that dealing with the totality of all that makes for wild parenting times. Forget the perceptions and opinions of those who don't get it, how are we to do what's best for our children and to cope with all that is asked and required of us as their parents?

First, or at least concurrently, we must meet many of our own needs as individuals and adults, all the while keeping an eye on the big picture and operating from that perspective. This means living full lives ourselves. Sounds easy; it's not. Although we become accustomed to making great efforts on behalf of our children, many of us don't do as well by ourselves and would do well to look inward and attend to our own welfare, making greater efforts there. A stronger, more balanced adult will make a better, more balanced parent. This means reserving time for ourselves and our own interests and pursuits. This means keeping the bigger picture in view and walking some very fine lines sometimes, in honoring a child's total self along with our own and the family as a whole. This means not allowing ourselves to be pulled too far in one direction or another by a purposeful, determined youngster who might have and adroitly use the intellect and reasoning abilities of someone twice her age. We must know, or work towards knowing, when to go to bat for our child and when to hang back; when to intervene and when to let him struggle, even if the result might well be something less than success; when to let a child fly with her passion and when to ground her; when to accommodate a demand and when not to and how to respond to the reaction to an unpopular decision. In considering all this, I'm afraid Sisyphus and his rock and that hill keep coming to mind.

But I can hear the rejoinders now: Don't the "typical" kids you talk about do all of this, need all of this ? Don't their parents have to deal with them, too, make decisions for and about them, keep them in a big picture? Yes, of course. But that's not the issue. This is different, in ways that have to do with the total natures of our children. It's more. It's unrelenting. Some folks won't be persuaded, some don't want to be. I haven't found the medium for persuasion yet, though I'm still looking. The most I can do for now is calmly and firmly repeat the truth aloud in public places: gifted children are different, raising them is different, and accepting and acting on that is key for everyone. ❖



Don't Forget
Register Early

Beyond Giftedness VI

6th Annual Conference for Parents & Educators Who Live and Work With Gifted Children

Friday, February 26, 1999 / 8:00 a.m. - 4:30 p.m.
Arvada Center for the Arts & Humanities
Arvada, Colorado

For information call:
1-800-494-6178 or (303) 444-7020

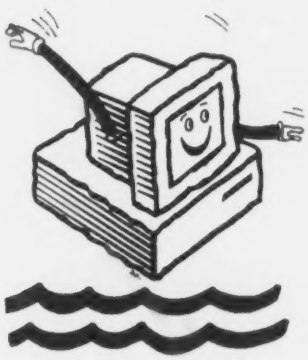
Surfing the Net

Sandra Berger

A few months ago I raised some questions about the effectiveness of all the technology on which we as a nation have spent billions of dollars. My questions were related to technology and student achievement: Is there direct connection? To what degree do students benefit from a high tech learning environment?

The question of whether or not technology is measurably improving education has been posed with increasing frequency by policy makers as well as the tens of thousands of individuals who allocate or receive funding from a variety of sources, including the United States Department of Education (DOE). Lately, the DOE has been talking about suspending or canceling the E-rate, which is the discount given to schools and libraries for hard wiring and other system components. Parents, juxtaposed with the skeptics, continue to clamor for more and better technology in schools. Intuitively it makes sense that technology improves teaching, learning and test scores. But does it? One of the problems in assessing effectiveness has been that individuals and groups differ on the purpose of technology. Some believe that it is a tool to prepare students for the workplace; others say it improves school climate, while still others believe that the primary purpose is to foster numerous educational reforms such as making classrooms learner centered. And then there's the question of test scores. What should we measure to gauge success?

Recently, *Technology Counts 98* addressed some of these questions. This long-term research study, underwritten by the Milken Exchange on Education Technology, a California-based nonprofit organization, has been published by *Education Week*, the education industry "trade" online newspaper. According to *Education Week*, the report approaches the issue of technology's effectiveness from several directions. To measure test scores, the results of the 1996 National Assessment of Educational Progress (NAEP) mathematics exam were analyzed by the Educational Testing Service (ETS). NAEP, known as "the nation's report card," has tracked student achievement scores for almost three decades. Following the analysis of student scores, 10 case studies were used to highlight relevant research and make recommendations for using technology most effectively. The full report includes the most recent national and state-by-state data on technology, access and use. If you want to see how the students in your state fared in relation to all other states, look for the state-by-state table in the report. The full report is at *http://www.edweek.org/sreports/tc98 http://www.edweek.org/sreports/tc98/.* The NAEP is online at *http://nces.ed.gov/naep http://nces.ed.gov/naep*, and the ETS study at *http://www.ets.org/research/pic/technolog.html http://www.ets.org/research/pic/technolog.html.* I had difficulty getting directly to the ETS study and wound up truncating the URL by deleting the right-hand side. This means I used *http://www.ets.org/research www.ets.org/research/* as my URL, and then used the ETS links to get to the report.



***Sandra Berger** is the Information Specialist for Gifted Education at the ERIC Clearinghouse on Disabilities and Gifted Education in Reston, Virginia. She is the author of College Planning for Gifted Students.*

Summary of Findings

The following is a "grab bag" of findings, taken from *Education*

- continued on next page

Surfing the Net

continued

Week, providing a sketch of the results. For the first time, NAEP asked students and teachers questions about how they used computers in math. Since the NAEP tests 4th and 8th graders, the data is limited to those grades.

• Teacher training and knowledge is directly correlated with student achievement scores. In both 4th and 8th grades, students whose teachers had professional development in computers outperformed students of teachers who lack such training.

• How students use computers is also directly correlated with achievement. For example, 8th graders whose teachers used computers mostly for simulations and applications generally associated with higher order thinking performed better on NAEP than students of teachers who did not use computers for such applications; thus students scored higher by two-fifths of a grade level. 8th graders whose teachers used computers primarily for drill and practice generally associated with lower level thinking performed worse, performing lower by half a grade level. A simulation can illustrate relationships for students and allow them to test the effects of changing variables; an application, such as a spreadsheet program, lets students manipulate and analyze data. For example, one instructional unit allowed students to test the concept of velocity.

• Among 4th graders, students whose teachers used computers mainly for math/learning games scored higher than students whose teachers didn't use computers in this way.

• The same factors linked student achievement, school climate and professional development. Where teachers had professional development with computers and used them for teaching higher order skills, students achieved at a higher level, and schools tended to have higher staff morale, less tardiness and lower teacher and student absenteeism.

• Sadly, low-income and black students are the least likely to have teachers who use technology to its full advantage. Although black students use the computer more than other students, more than half had teachers who used computers mostly for drill-and-practice, resulting in lower test scores.

• The importance of professional development cannot be overstated. Teachers who had received any amount of professional development with computers within the past five years were more likely to use computers in ways found to be effective than teachers who received no such training. A little training goes a long way, although the study did not specify the quality, which could vary from attending one workshop to one-on-one assistance in the classroom.

Because this study was based on a single year of data, it can't prove effects over time, or even say whether certain uses of computers cause higher student achievement. Even if causality could be established, it is possible that a much less expensive method would have the same upward effect on student test scores. But the data can inform professional development to some degree and act as the basis for a qualitative research study.

A HODGEPODGE OF "BRAINY" WEB SITES

The Southwest Educational Development Laboratory offers another informative report: *How Can Research on the Brain Inform Education?* This report provides a sketch of research results and then crosses the bridge from theory to practice by discussing ways in which the research has been applied to create educational models. The report goes on to list specific research and the implications for teaching and learning.
http://www.sedl.org/scimath/compass/v03n02/brain.html

The Howard Hughes Medical Institute *http://www.hhmi.org/* offers a menu of interesting, useful Web sites.

• **Cool Science for Curious Kids**
http://www.hhmi.org/coolscience/
Kids can explore animal classifications, dust particles in the air, stages of a butterfly's life and which plant parts to use in a garden salad. Five museums have contributed questions, activities and factual information on individual sections. Tips for parents and links to the contributing museums complete the site.

• **Ask a Scientist**
http://www.hhmi.org/grants/lectures/askscientist/
Five simple science experiments for inquiring minds. The Howard Hughes Medical Institute (HHMI) invites curious kids to explore biology....on screen, off screen and in-between. The HHMI also offers an Ask A Scientist question and answer service. Questions

- continued on next page

Surfing the Net

continued

are answered within a week by scientists who are associated with HHMI in some way and have volunteered to be part of the program because they enjoy communicating with the public, particularly with young adults who are interested in science.

• Seeing, Hearing and Smelling the World
http://www.hhmi.org/senses
Up-to-date research on the science of sensory systems. Each of the site's five main sections–Senses (the brain), Seeing, Hearing, Smelling and Brain Scans–showcases brief informative articles with intriguing facts and lively graphics. A Glossary adds to the site's educational value.

• ARS Science 4 Kids
http://www.ars.usda.gov/is/kids http://www.ars.usda.gov/is/kids/
This site from the Agricultural Research Service (ARS) is aimed at kids ages 8 to 13 with an interest in science and introduces various projects of ARS scientists. The home page offers graphic links to the various sections: clicking on the catfish takes users to the Aquaculture section, the bee to Insects and so on. The stories are short, illustrated and written with young readers in mind. For additional resources on any topic, students can follow links to the ARS "Agricultural Research" magazine, or send e-mail questions to Dr. Watts, the helpful ARS scientist.

• wNetSchool
http://www.wnet.org/wnetschool http://www.wnet.org/wnetschool/
wNetSchool merges the resources of public television programs with Internet-based resources and lesson plans created by veteran teachers to provide an integrated tool for K12 educators. Registered teachers (registration is free) can consult Web Experts, learn about select software applications, refer to the Internet primer for basic information, read the monthly bulletin, browse a list of annotated links and search the National Teacher Training Institute for Math, Science and Technology's (NTTI) Lesson Plan Database. Other wNetSchool sections include Teacher Talk, which offers an online forum for teachers to discuss specific topics, and Student Gallery, a profile of exemplary student projects.

• Neuroscience for Kids
http://weber.u.washington.edu/~chudler/neurok.html
http://weber.u.washingtn on.edu/~chudler/neurok.html
An online neurology site aimed at K12 students and teachers, provided by the University of Washington. The Explore the Nervous System section is the primary feature of this site, a 60-part tutorial on the brain, spinal cord, nervous system, neurons, sensory systems, neurosystems, neuroscience methods and the effects of drugs on the nervous system.

• How Stuff Works
http://www.howstuffworks.com/
If you have ever wondered how your car engine works or how electricity is transferred from the source to your house, then surf over to How Stuff Works by Marshall Brain, a former computer science teacher at North Carolina State University. The site is divided into 10 categories covering topics such as electronics, public works and digital technology.

• Trivial Pursuit: Genus IV
http://www.trivialpursuit.com/Less graphical entrance:
http://www.trivialpursuit.com/htdocs/home1.html
Hasbro, Inc., makers of the Trivial Pursuit board game, in a dual celebration of the game's 15th anniversary and the release of the new Genus IV edition, is making a selection of its over 4,800 questions available for play via the Web. Questions are available in six categories at three levels: Brain Stem Only, Frontal Lobe and Calling All Neurons. A correctly answered question in one category means that the user must choose a different category for the next question.

That's all for now. Don't forget, if you come across a wonderful, zany or just interesting Web site that you want to share, send it along to us, and we'll include it in the column. ❖

sberger@inet.ed.gov

The ideas expressed in this article are the author's and do not necessarily represent the views of the CEC or ERIC Clearinghouse on Disabilities and Gifted Education.

The URLS were accurate and working when last checked. The Internet is a dynamic place, and changes take place rapidly and without the server, the server might be temporarily down or the URL might have changed. Try again later or truncate the URL.

Notes From Home

Allegra Sanchez

Accepted almost universally now, homeschooling has grown into one of the most vital and dynamic educational choices for gifted children. In acknowledgement of this trend and in response to reader requests, ***Understanding Our Gifted*** *introduces its newest regular column,* Notes from Home, *and its regular columnist Allegra Sanchez, writer, parent, educator.*

The S-Word

It is always among the first questions asked when people hear we homeschoo : "But what about their socialization?" And I have to admit, it was one of my first concerns, too, when we contemplated homeschooling several years ago. Academics were never an issue; between my husband and me we had those bases covered. Extracurricular activities were easily filled by programs offered through the city, Scouts, 4-H, etc. The only question left was socialization. Linda, at age 15, is shy, quiet, reserved, unassuming and watchful. Miguel is 12 and her polar opposite. Both are highly gifted. When they were younger, my husband and I felt both our children needed to be in school for reasons of socialization. Those reasons were different for each child—for Linda, to help in overcoming her standoffishness, and for Miguel in providing him the company of the peers he seemed to need. We found we were wrong on both counts, and, in retrospect, we came to know that socialization was never a legitimate reason to keep them in school.

So how did we change our minds? We researched, we observed other homeschooled children, we pondered, we discussed. In the end, it was what happened in our own family that convinced us that "socialization" was a false concern. Of course, that final realization only came after we'd been homeschooling for a little while, but we learned enough beforehand to give us the courage to take the plunge.

Linda was 8 and in 3rd grade, Miguel just 5 and in his fourth month of kindergarten, when I took my first questioning look at school's version of socialization. Linda's shyness certainly hadn't changed any in the time she'd spent in school, but because of her quiet personality and glowing academic reports I never questioned what might have been happening. She was always praised by her teachers for being a good example for the other kids; they were happy to have that kind of gifted child in the classroom. Miguel, however, was a different matter. Like his sister, academically advanced, he was also rambunctious, eager and active. He was the one who came home with the "so so" reports of daily behavior. It seemed more appropriate to start my investigation with him.

There were 30 children in his class, one full-time teacher and one part-time teacher's aide. Parent volunteers came and went but were not a consistent part of the classroom scene. I wondered exactly what kind of social skills Miguel and the other children

- continued on next page

Allegra Sanchez *is a writer, volunteer worker and homeschooling parent of two gifted children. She and her family live in Texas.*

Notes

continued

were learning in the classroom of so many active little minds and bodies, and I spoke with his teacher about it. She was a lovely woman with several years of teaching to her credit and a genuine love of children in her heart. She looked at me a moment, shook her head slightly and motioned me to her desk. She showed me page after page of curricular mandates from the school board and the principal; she showed me lesson plans, lists of objectives and goals, requirements for outsourcing, resourcing and enrichment, special instructions for the children with chronic asthma and ADHD as well as the child with seizure disorder and another with Tourette's syndrome. "Mrs. Sanchez," she said, "I simply don't have the time to help these children with that kind of thing. As far as I'm concerned, socialization belongs in the same place as religious instruction—with the family."

Then I asked her how the children learned to get along in the classroom. She showed me the list of rules posted on one wall and said they were spoken out loud every day until each child knew them by heart. "And, of course," she added, "they do learn from the other children." I thought about that one for a long time and no matter how I looked at it, it always came down to one thing: A large group of 5 and 6 year olds was being taught manners and behavior by a peer group of other 5 and 6 year olds equally unaware of social convention. I began to wonder if they learned social skills or if they were just reinforcing their own negative traits.

Okay, I told myself, so maybe classroom time isn't the best example of learning socialization. What about playground time or lunch time? An incident from Linda's first year in school came to mind and caused me to shudder and think harder. Linda had come home from school in tears one day because a classmate had been firmly escorted off the playground for teaching anyone who cared to know how to spit in someone's face. When I asked her who was learning this trick she replied that "everyone" was watching and "almost everyone" was practicing. Fortunately, she pronounced it "gross" and didn't follow suit, but that didn't stop her from watching, nor did it stop her from being upset when the angry playground monitor grabbed the offending child by the arm and marched him away. At the time I dismissed this, thinking, *Kids will be kids*....and promptly forgot about it. But other examples cropped up each year; there was the playground bully who wouldn't let Linda play on the swings, children who simply had to show off their karate skills by kicking other kids in the head, fights over who got the ball or who was cheating. When I considered these instances together, it seemed to me that what children were really learning out on the playground was that the most aggressive person, or the one with the biggest mouth, got his way. Kids being kids? I no longer thought so. My heightened awareness made me wonder if that all-important socialization factor was all it was cracked up to be.

Then there was the issue of age segregation. As a rule, children are placed into classrooms by chronological age. Emotional age and intellectual age are never considered to be part of the equation, yet with the inherent asynchrony of gifted children, they certainly should be. Linda was lucky in kindergarten because her teacher recognized her abilities and made an effort to work with her and the three other children who were already way ahead of their peers. Unfortunately, it all came apart the following year when her 1st-grade teacher wouldn't make the same effort. In fact, that teacher thought something was wrong with Linda because she didn't play the same way the other children did. Linda thought other kids were being silly when they "crawled around on the floor like animals" when she'd rather have been reading a book. Her emotional age was much older than her seven chronological years. But being Linda, when she realized that the teacher expected her to behave like the other children, she complied, and her teacher was finally happy. Linda wasn't, but she didn't complain.

Why do we expect children to make friends with other children simply because their birthdays fall within certain arbitrary dates? In looking at my own life in this regard, I can't remember a time when my real friends were my same exact age. And now more than ever, my friends' ages are disparate and separated by 50 years or more; my oldest friend is 81, my youngest friend is 16. Did I learn to appreciate age differences in school? Definitely not. All age segregation taught me was to lord it over the younger kids while worshipping the older ones. It just doesn't work that way in real life, but I had to be out of school in order to learn that. My two children, with their vast and obvious differences and age-to-

Notes

continued

ability discrepancies, were not at all a good fit in the school setting.

Yet, it still took some time before we pulled our children out of school. In spite of what we'd learned, we were heavily influenced by others who insisted that Linda and Miguel would never have any friends and would end up being social misfits if they were homeschooled. But in 4th grade Linda developed severe stomachaches and Miguel, in 1st, became very sullen and uncooperative. They squabbled with each other constantly. Over the following summer, however, our children were happier, healthier, more convivial, and it finally became obvious to us that something was wrong at school and something was right at home. Perhaps the emotional, physical and intellectual reserves and stimuli available within the family were what our particular children needed. With the agreement that they could always go back to school if things didn't work out at home, we started homeschooling Miguel and Linda at the ages of 7 and 10.

So how has the big socialization issue worked out around here? Have our children become recluses, neither desiring nor able to achieve friendship? Not at all. Linda has many acquaintances she meets at our local YMCA where we swim regularly. She also volunteers one day a week at a local Montessori preschool where the teacher and children love her. Her best friend is someone she met at the pool, a girl who lives several miles away and attends a different school than Linda would have attended. This wonderful girl is also a year older and would have been in a different grade and, under ordinary conditions of school attendance, would be an unlikely candidate for being Linda's best friend. Oh, and Linda's stomachaches cleared up and have never returned.

Miguel is still a real boy's boy, but he is no longer the bored, belligerent child looking for a fight. He plays on a city-sponsored soccer team and has several friends from that association. He has neighborhood buddies and friends from the acting classes he takes on Saturday morning. But more importantly, he and Linda have formed a very close bond that I rarely see between siblings in other families. They cooperate with one another and learn from each other; they have a genuinely good time together. My husband and I have been rewarded with their many skits, shows and theatrical readings, along with true peace in our house.

If real socialization, learning how to live with, respect and relate to people in the real world, were possible to teach in school, then perhaps that would be a good place to learn it. But with crowded classrooms and overworked teachers, to me it just doesn't seem at all possible. And as my children demonstrate, the needs of each individual are so different, and the needs of the gifted so different still, that it just makes sense that one or two teachers, Mom and Dad, can do a better job. At least, that's how it works for us. ❖

Above & Beyond

Susan Winebrenner

The Total Child

I am what they call a gifted child. I guess that means I'm smarter than many other kids my age. That's probably true—when it comes to learning school subjects. Unfortunately, I have noticeable weaknesses in several areas of learning such as gym, art and making music. It's funny how both my strengths and weaknesses cause me stress, and I'm uncomfortable as I worry about whether people will "find me out." To tell the truth, I wish I could feel better about being different from other kids my age. Most of the time, it seems to me that other kids would also prefer it if I was more like them!

I've tried to do things that would make me appear more "normal." I've played soccer, baseball and even volleyball, but I usually drop off the teams once some of the other kids begin to get to me. Sometimes, I'm frustrated because some others on the team don't seem to be pulling their weight—goofing off sometimes instead of playing as hard as they can. Other times, I'm frustrated when they tease me about not being a better athlete. I can't get over the fact that I'm teased both for being "too good for my own good" in some subjects and "pretty pathetic" in some of my efforts to be a good team player. When I finally found a sport I was pretty good at, I realized I chose one in which I only needed to compete against myself, since being good at karate really depends only on what I can do by myself.

We often get "lessons" in school about understanding and appreciating the differences some of my classmates demonstrate. For example, I've been taught to be tolerant of "persons of color" and of kids who have moved here from different countries. I think it's really ironic that my "diversity" in learning ability is never mentioned as a category that deserves special consideration or appreciation. I also remember a few times when a teacher from special education would talk to our class about the "special needs" of certain kids who would be in our regular classes for the first time. We discussed ways we could make these new kids feel welcome, and we were also coached in things we should avoid saying and doing. One of the teachers made a special point of saying that the more differences a student had, the more tolerance, understanding and support they would need from their fellow students. Maybe if my learning difference were in special education, I would get less teasing and more "appreciation." No one seems to understand that I didn't ask to be so smart—it's just the way I was born. Somehow, it just doesn't seem fair that I have to work so hard to get other kids to accept me.

I've had similar thoughts about our program in drug education, which includes things we need to say and do to keep from getting "hooked on drugs." Teachers make a big deal about how kids should resist peer pressure and "just say no" to peers who would

- continued on next page

***Susan Winebrenner**, from Michigan, presents workshops on a variety of topics, but her first love is teaching gifted children. She is the author of Teaching Gifted Kids in the Regular Classroom and Teaching Gifted Kids with Learning Disabilities in the Regular Classroom.*

Above & Beyond

continued

try to influence us to mess around with things that aren't good for our bodies. I wonder if those same teachers realize how much peer pressure I feel to be more like the other kids and less like myself. It sure seems weird that I am expected to resist that peer pressure for one purpose and to give in to it for another.

That pressure I feel from my peers takes many forms. Sometimes it feels as though they expect me to always be perfect, yet wait breathlessly for me to "fail" by being less than perfect. Yesterday, one kid, who seems to really dislike me, noticed a score of 92 I got on a test the teacher handed back. This kid said, in a voice loud enough for everyone to hear, "Oh look, the brain got a B!" I'm pretty sure the teacher heard him, but she didn't say anything. It's hard enough for me to deal with my own disappointment about that grade—no way I need that kind of "help" from anyone else.

It's also very difficult for me to have a decent social life. Of course, I want to have friends, kids who would accept me just the way I am. But it's really difficult to find kids my own age who seem to be able to do that. Sure, I enjoy spending some time with those kids, but it would really be cool to be able to find kids who share some of *my* interests and attitudes—kids who are interested in the same things I'm interested in, kids who would actually appreciate me because of the things we have in common. I'd like to be able to just be myself. But for some strange reason, even when I find a "soul mate" in school, teachers split us up into different homerooms. I heard one teacher say once that we were needed as leaders and good role models in each class. What they don't seem to realize is how tough it is to be a minority of one....of anything! One kid who speaks no English, one kid who is hard of hearing or one kid (me) who is happiest when I'm learning about things that lots of other kids don't seem to care about. To tell you the truth, most of the time in school, I'm really lonely. And that loneliness only goes away when I magically find one or two other kids in my classes who are just like me in many ways—and then I feel OK—even "normal." I guess I'll just go on hoping that maybe next year will be better. ❖

Interact!

...a forum for discussion of what is important in the lives of gifted children and those who live and work with them. Share your views and opinions, your successes and frustrations, your expertise and your dreams.

Include your name and address; if your correspondence is published we will mention your name and state or country, unless you specify otherwise.

Open Space Communications
1900 Folsom - Suite 108
Boulder, CO 80302
Fax 303-545-6505
dorothy@openspacecomm.com

Understanding Our Gifted is an immensely helpful publication, especially when various gifted children are written about. My understanding grows from the insights shared by the authors, and I know the articles often validate parents' perceptions and experiences.

Irene Lavin
Amherst Supporters Promoting Individualized Responsive Education (ASPIRE)
Amherst, NY

All this talk about gifted education changing in the schools, as well as the emphasis on political correctness...Well, we have three gifted kids moving through the system, and their needs aren't changing, just becoming more intensified. They need daily challenge and teachers who understand their learning styles. They each have uneven levels of development, all are perfectionists, one is sensitive to every problem in the world, one thinks way outside the box, and on and on. They need what they need, but they get less all the time, it seems. We have always supported public education but are having trouble understanding a system that doesn't work for kids. What can be done? What more can we do as parents, when we feel we've already done everything humanly possible?

Shaun & Tricia Grazio
Chicago, IL

Book Bag

Parents and educators often find addressing the needs of gifted children to be a complex task and seek dependable information, help and advice in many forms. Following are some book resources with the total gifted child in mind, recommended specifically by this issue's authors.

Twenty Principles for Teaching Excellence. M. Walker Buckalew. Wilmington, Delaware: Independent School Management, 1992.

Growing Up Gifted: Developing the Potential of Children at Home and at School. Barbara Clark. Upper Saddle River, NJ: Prentice-Hall, 1997.

Right-Brained Children in a Left-Brained World: Unlocking the Potential of Your ADD Child. Jeffrey Freed & Laurie Parsons. New York: Simon & Schuster, 1997.

The Wonder of Boys: What Parents, Mentors and Educators Can Do To Shape Boys into Exceptional Men. Michael Gurian. New York: Tarcher-Putnam, 1997.

Finding the Heart of the Child: Essays on Children, Families and School. Edward M. Hallowell & Michael G. Thompson. Washington, D.C.: National Association of Independent Schools, 1997.

Parent Education: Parents As Partners. Dorothy Knopper. Boulder, CO: Open Space Communications, 1997.

They Say My Kid's Gifted: Now What? F. Richard Olenchak. Waco, TX: Prufrock Press, 1998.

Talented Children and Adults: Their Development and Education. Jane Piirto. Upper Saddle River, NJ: Merrill, 1999.

Teens With Talent: Developing the Potential of the Bright, Brighter and Brightest. Ellie Schatz & Nancy Schuster. Boulder, CO: Open Space Communications, 1996.

Counseling the Gifted & Talented. Linda Silverman, Ed. Denver: Love, 1993.

Gifted Girls. Joan Franklin Smutny. Bloomington, Indiana: Phi Delta Kappa Educational Foundation, 1998.

How to Differentiate Instruction in Mixed-Ability Classrooms. Carol Ann Tomlinson. Alexandria, Virginia: Association for Supervision and Curriculum Development, 1995.

Teaching Gifted Kids in the Regular Classroom. Susan Winebrenner. Minneapolis, MN: Free Spirit, 1992.

BEST COPY AVAILABLE

Leading Journal Since 1988

Understanding Our Gifted Back Issues

Volume 1
- ❒ 1-1 Social and Emotional Needs **
- ❒ 1-2 Early Development **
- ❒ 1-3 Highly Gifted
- ❒ 1-4 Learning Styles **
- ❒ 1-5 Parenting the Gifted **
- ❒ 1-6 Moral Development **

Volume 2
- ❒ 2-1 Underachievement **
- ❒ 2-2 Gifted Girls **
- ❒ 2-3 Adolescents
- ❒ 2-4 Thinking Skills
- ❒ 2-5 International Perspectives
- ❒ 2-6 Learning Problems

Volume 3
- ❒ 3-1 Personality Types **
- ❒ 3-2 Program Administration **
- ❒ 3-3 Creativity **
- ❒ 3-4 Counseling
- ❒ 3-5 Arts and the Gifted
- ❒ 3-6 Cultural Diversity

To Order, Use Form Below

Volume 4
- ❒ 4-1 Student Research
- ❒ 4-2 Technology and Education
- ❒ 4-3 Empowering Parents
- ❒ 4-4 Assessing the Gifted
- ❒ 4-5 Collaborative Efforts
- ❒ 4-6 Family Relationships

Volume 5
- ❒ 5-1 Homeschooling
- ❒ 5-2 Promising Practices
- ❒ 5-3 Parent Advocacy
- ❒ 5-5 Young Gifted Child
- ❒ 5-5A Being Out of Sync
- ❒ 5-6 Philosophy of Giftedness

Volume 6
- ❒ 6-1 Valuing Parents
- ❒ 6-2 Excellence Revisited
- ❒ 6-3 Networking
- ❒ 6-4 Talent Searches
- ❒ 6-5 Attention Deficit Disorders
- ❒ 6-6 Mainstreaming

** *Out of Print Issues - $6.00 each (Add Shipping/ Handling as indicated on order form.)*
Note: Out of Print Issues available as black & white photocopies.

Volume 7
- ❒ 7-1 Spectrum of Giftedness
- ❒ 7-2 Update On Technology
- ❒ 7-3 Recognizing Gifted Young Children
- ❒ 7-4 Secondary Gifted Students
- ❒ 7-5 Exploring Creativity
- ❒ 7-6 Mutual Education

Volume 8
- ❒ 8-1 Multicultural Issues
- ❒ 8-2 Gifted Students - Upper Elem./Middle
- ❒ 8-3 The Visual Learner
- ❒ 8-4 Parenting & Teaching Gifted Children
- ❒ 8-5 Global Connections for Gifted Students
- ❒ 8-6 Affective Needs

Now Available: Volume 9 -10
($12 each plus s/h)

Volume 9
- ❒ 9-1 Perfectionism
- ❒ 9-2 Gifted Ed. & the Law
- ❒ 9-3 Inside Giftedness
- ❒ 9-4 Learning Differences

Volume 10
- ❒ 10-1 Educational Options
- ❒ 10-2 Intelligence Revisited
- ❒ 10-3 Parenting & Advocacy
- ❒ 10-4 Curriculum

Order 4 Back Issues (Volume 1-8)

1 2 3 4 5 issues

Get a 5th one FREE — Only $16.00

U.S. only • Indicate Issue Selection above • Out of Print Journals not included

Order Form

Understanding Our Gifted Subscription
$35 Individual. $45 yr. Institutions. (Published Quarterly) $_____
International $47 U.S. funds. International Institutions $57. $_____
Back issues $8 each. **(vol 9 -10 $12)** $_____
International $10 U.S. funds **(vol 9 -10 $20)** $_____

Professional Development Series
__ ***Affective Education*** $14.25 $_____
__ ***Parent Education*** $14.25 $_____
__ ***Teens With Talent*** $15.45 $_____
__ ***Smarter Kids*** $15.45 $_____
__ Tape 1 *(The Gifted Child As Visual Learner)* $10.00 $_____
__ Tape 2 *(Social / Emotional & ADHD Needs)* $10.00 $_____
__ Tape 3 (*Giftedness & the Visual Learner*) $12.00 $_____
Shipping/Handling $_____

Back Issues, Books, Tapes - Add 10% ($2.50 minimum)
International: Subscriptions, Back Issues, Books, Tapes - add 20% ($7.50 minimum)

Total Enclosed U.S. Funds $_____

Name:_____

Institution:_____

Address:_____

City/State/Zip:_____

VISA/MC Card _____

Exp. Date:_____

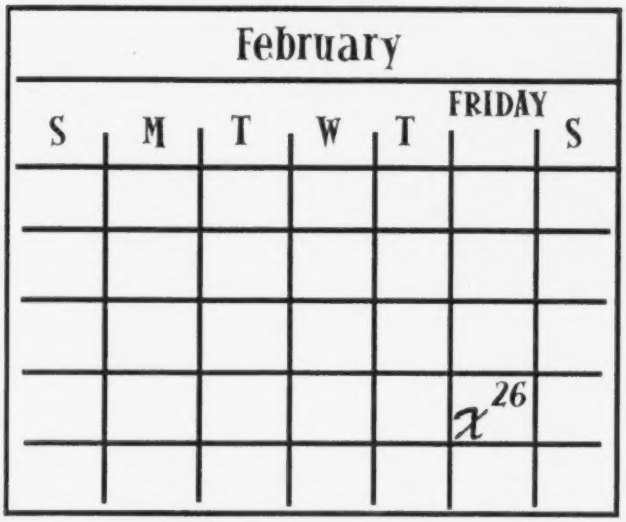
Make checks payable to:
OPEN SPACE COMMUNICATIONS, INC.,
1900 Folsom-Suite 108, Boulder, CO 80302

MARK YOUR CALENDAR

Beyond Giftedness VI

Friday, February 26, 1999

Arvada Center for the Arts, Colorado



6th Annual Conference
For Parents, Teachers, Counselors

Keynote Presenter:

Carol Fertig

Specialist, Gifted Education

Pearls and Perils of Perfectionism

All Levels - Many Topics

To Register, Call:
Open Space Communications
(303) 444-7020 or
1-800-494-6178

Open Space Communications, Inc.
1900 Folsom, Suite 108
Boulder, CO 80302

Change Service Requested

BULK RATE
U.S. Postage
PAID
Boulder, CO
Permit No. 94

**ALL FOR ADC 220
9
25

UNDERSTANDING OUR GIFTED®

Dedicated to helping gifted children reach their full potential

INSIDE

Gifted Girls

Winter, 1999 Volume 11, Issue 2

parents

e

ents parents

talented

BEST COPY AVAILABLE

Publisher
Dorothy Knopper

Editor
Laura Goodman

Design/Desktop Publishing
Ann Alexander Leggett

Editorial Assistance
Joan Franklin Smutny

UNDERSTANDING OUR GIFTED

Open Space Communications, Inc

Editorial Advisory Board

Alexinia Baldwin
Professor
University of Connecticut

Sandra Berger
ERIC Clearinghouse-Disabilities/Gifted Ed.
Council for Exceptional Children, VA

Ernesto Bernal
Professor of Educational Psychology
University of Texas - Pan American

George Betts
Professor of Special Education
Gifted and Talented
University of Northern Colorado

Barbara Clark
Professor
California State University

LeoNora Cohen
Associate Professor
Oregon State University

James Delisle
Professor
Co-Director, SENG
Kent State University, OH

John Feldhusen
Professor
Purdue University, IN

Carol Fertig
Peak Educational Resources
Cherry Creek Schools, CO

Maurice D. Fisher
Publisher
Gifted Education Press, VA

Jerry Flack
President's Teaching Scholar
University of Colorado,
Colorado Springs

Gloria Frender
Educational Consultant
Brain Power, Inc., CO

Marvin Gold
Publisher, Tapes 'n Books for
Gifted Education, AL

Pamela Hildebrand
Special Education Consultant
Melbourne, Australia

Pat Hollingsworth
University School for Gifted Children
University of Tulsa, OK

Holly Hultgren
Principal
Boulder Valley Schools, CO

Frances A. Karnes
Professor, Special Education
Director, Center for Gifted Studies
University of Southern Mississippi

Elinor Katz
Dean of Education
University of Denver

Bertie Kingore
Shelton Professor & Elementary/Secondary Ed.
Hardin-Simmons University, TX

C. June Maker
Associate Professor
University of Arizona

Joel McIntosh
Publisher
Prufrock Press, TX

Connie McLendon
Executive Director
Texas Association for Gifted/Talented

Garnet Millar
Provincial Coordinator
Guidance & Counseling
Alberta Education, Canada

Sheri Nowak
Assistant Professor
Emporia State University, KS

Rick Olenchak
Professor & Psychologist
Center for Gifted Education and Psychology
University of Houston, TX

Jeanette P. Parker
Director, Center for Gifted Ed.
University of Southwestern Louisiana,
Lafayette

Gina Ginsberg Riggs
Executive Director
Gifted Child Society/PING, NJ

Ann Robinson
Professor
University of Arkansas at Little Rock

Mark Runco
California State University, Fullerton

Ellie Schatz
Executive Director
Wisconsin Center for Academically Talented You

Beverly Shaklee
Associate Professor
Kent State University, OH

Dorothy Sisk
Director, Conn Chair for Gifted Education
Lamar University, TX

Joan Franklin Smutny
Director, Center for Gifted
National-Louis University, IL

Stuart A. Tonemah
President
American Indian Research & Development, OK

E. Paul Torrance
Georgia Studies of Creative Behavior

Joyce VanTassel-Baska
Professor
College of William & Mary, VA

Sally Walker
Executive Director
Illinois Association for Gifted Children

Marilyn Wallace
Academic Director
Creative Children's Academy, IL

Susan Winebrenner
Education Consulting Service, MI

Understanding Our Gifted (ISSN 1040-1350) is published quarterly by **Open Space Communications, Inc.**, P.O. Box 18268, Boulder, CO 80308-8268. Subscriptions are $35 for 1 year: Institutions $45. International subscriptions are $47 U.S. funds; International Institutions $57. Back issues available. Third class postage paid at Boulder, CO. For subscription address changes, send mailing label along with new address to *Understanding Our Gifted*, 1900 Folsom, Suite 108, Boulder, CO 80302, eight weeks before moving. Material in *Understanding Our Gifted* can be copied for personal use only. No material can be reproduced for publication without permission. Appropriate credit must be given. Copyright 1999, **Open Space Communications, Inc.** All rights reserved.
(303)444-7020/FAX (303)545-6505/800-494-6178. E-mail: *dorothy@openspacecomm.com* www.openspacecomm.com

BEST COPY AVAILABLE

Contents

Focus: Gifted Girls

2- Between the Lines

3- The Math-Science Mystique
Lynn Fox, Jennifer Engle & Janet Soller

9- Gifted Girls
Joan Franklin Smutny

14- Compiling a Life's Work: A Conversation with Computing Pioneer Fran Allen
Karen LaBonte

19- Carousel....Girls and the M Word
Monique Lloyd

21- Notes from Home....As Is
Allegra Sanchez

23- Surfing the Net
Sandra Berger

26- ParentSpace....Eye of the Hurricane
Laura Goodman

28- Software Updates
Gregory C. Pattridge

30- Above & Beyond....Helping Gifted Girls Through Discussion Groups
Susan Winebrenner

31- The Bookshelf....Astrid Lindgren
Suzy Schettler

Between the Lines

Having learned much practical information from mothering three gifted boys to successful adulthood, I have long considered myself to be quite proficient—with skills honed in the field—on the subject of young intellectually talented males. When I began consulting professionally with parents of the gifted, and the children themselves, my first clients were boys and their families. I felt comfortable—even a bit smug—empathizing with their concerns, offering advice, working through the familiar problems of parenting and growing up gifted.

I was unprepared for my discomfiture when the first gifted girl and her parents walked through my door. As a teacher, I had worked with many bright girls, and, of course, I could draw on my own growing-up experiences: difficulty with math, music and sequential learning; good with words, both spoken and written; a great love of books; strong visual learning style; "eager to please" personality and those characteristics so unique to the gifted, perfectionism and fear of failure. Many of these traits, as well as those I observed in gifted girls in my classroom, were also apparent in my sons, so I didn't realize that they might be more common in girls, that there was a pattern which related more closely to "gifted girls" than to the overall concept of "gifted."

Reading Joan C. Harvey's book, *If I'm So Successful, Why Do I Feel Like a Fake? The Impostor Phenomenon*, when it was published in 1985 (New York: Simon & Schuster), I experienced a significant "Aha!" over her explanation for behavior I'd observed not only in gifted girls, but in myself. The Impostor Phenomenon pattern is based on "intense, secret feelings of fraudulence in the face of success and achievement." Those suffering from this syndrome believe that their success is not deserved. "You're a phony who has somehow 'gotten away with it.' You aren't the person you appear to be to the rest of the world" (p.4). The Impostor Phenomenon, along with society's continuing pressure for girls to conform to their peer group, develop social skills, avoid aggressive behavior, de-emphasize math and technology as learning interests, suppress their "smarts," helps to explain some of the nature of gifted girls. Although Harvey states that the phenomenon occurs in both males and females, I believe it to be less frequent in boys, at least not to the same degree.

In the more than 25 years I have worked individually with the gifted, I've found that of the children I've seen with social/emotional and school-related concerns, three fourths are boys. Of the remaining one fourth, the scenario often begins with a boy brought in with acute problems, and in the course of getting acquainted with the family parents mention that a sister also is gifted but is so shy and cooperative that she "doesn't cause problems nor seem unhappy [like her brother does]." Often times, further discussion about giftedness and its characteristics elicit questions from parents about their daughter's potential and what they should be doing to offer her greater challenge at home and in school.

When parents bring in a daughter I usually find it necessary to use a different approach in getting to know her. In my experience, girls are initially more concerned with what I think of them, anxious to please, cooperative and less questioning of why they are in my office. When asked about themselves, they discuss freely their one-on-one social interactions and dilemmas, whereas boys will initially tell of their involvement with group activities and describe why and how they "get in trouble" and the unfairness of it all. Girls usually sit patiently while we "chat," but boys wiggle, walk around and want to know when we'll be finished. There is no doubt that gifted boys frequently "rock the boat" in classroom and social situations, causing parents and teachers to seek help and advice, while girls seem to slide by unnoticed, victims of the Impostor Phenomenon, quietly burying their abilities more and more each year.

This issue of *Understanding Our Gifted* explores some of the unique aspects of the nature of gifted girls, the strengths and talents that they often suppress....the growing up patterns that differ so from boys of comparable intellectual abilities. Our authors offer views ranging from the very research-based to the extremely personal in discussing the development of gifted girls into gifted women. Looking closely at girls, as we do here, we hope to help sustain the necessary and constant focus on the critical responsibilities of parents and teachers in guiding gifted girls into life choices that encompass all they can—and want to—become. ❖

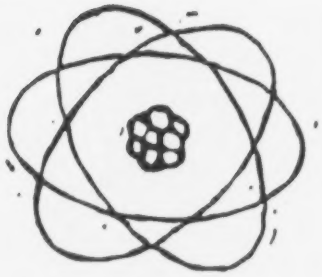
D.K.

FOCUS

The Math-Science Mystique

Lynn Fox
Jennifer Engle
Janet Soller

Today the shortage of qualified workers in science and technology in the United States is said to be alarming. The fact that so few women are pursuing science and technology at advanced levels has led to the creation of a federal commission to study the shortage of bright women in the ranks of the most scientifically elite (H.R. 3007, 1998). While women make up nearly half of the labor force, only one in five workers in science and engineering are female. Within these fields, women are more highly represented in the social sciences than in the physical sciences and engineering. Although women are more than half of sociologists and psychologists, they are less than 10% of physicists and engineers. Between 1986 and 1994, there was actually a 50% decrease in the numbers of women pursuing degrees in computer science. The gap is predictably greater at the Ph.D. level in the sciences than at the bachelors' degree level (Vetter, 1996).



Women with the most potential for high-level careers in science and technology are those who were identified as gifted in mathematics and science at an earlier age. What is known about mathematically gifted females comes from two major sources. The first is a collection of retrospective studies of the lives and career paths of adult women scientists and mathematicians. The second includes studies of students who are identified as gifted in terms of test performance in mathematics. Our intent is to examine those bodies of research in order to understand why there continues to be so few gifted women in careers in science and technology.

Women in Science: The Adult Perspective

Women who pursue careers in male-dominated fields of science and technology, especially at the Ph.D. level, are more rare today than ever before when adjusting for the overall increase in women going to college over the last 25 years (Barber, 1995). Women cite lack of role models and difficulties combining a career and family as major barriers in the pursuit of science and technology (Etzkowitz et al., 1994; Subotnik & Arnold, 1996). Yet one study of eminent scientists found women with children were slightly more productive in terms of numbers of publications than eminent women who had no children (Cole & Zuckerman, 1991). Another study (Etzkowitz et al., 1994) suggests instead that marriage and having children has a negative impact in three specific points in the career cycle only: during graduate school, during job seeking and prior to tenure.

It is clear that the condition of women in science and technology is viewed by most as "disadvantaged" relative to their male peers. Women scientists in academia are more likely than males to be untenured professors, to hold lower-ranked positions and to work part time. Women earn less, are promoted less and report more

- continued on next page

Lynn Fox, *Assistant Professor of Education at American University in Washington, D.C. is chair of the subpanel on mathematics, science and technology of the Gender Equity Expert Panel for the U.S. Department of Education. She is the author of many publications on gifted education, particularly gifted girls.*

Jennifer Engle, *a graduate student in the Ph.D. program in education at American University, is researching issues of educational equity for girls and young women.*

Janet Soller *is a doctoral candidate in educational leadership at American University; her thesis investigates the impact of higher education on the lives of women who are first in their families to graduate from college.*

Mystique

continued

incidents of harassment and hostility on the job (H.R. 3007, 1998). More subtle discrimination occurs when fellowships and scholarships are distributed in graduate school in ways that put more men in the labs doing research and more women in the classrooms as teachers (Vetter, 1996). This networking and publishing before graduation gives them an advantage in the job market.

Studies of Precocious Youths

One of the most detailed studies of mathematically gifted adolescents was begun in 1971 at Johns Hopkins University where the Study of Mathematically Precocious Youth (SMPY) created a model for talent searches and interventions for youth starting at grades 7 and 8 (Stanley, Keating & Fox, 1974). Alas, this early effort to identify precocious youth found far more boys than girls. Indeed, through the years the ratio of high-scoring boys to girls on the mathematics part of the Scholastic Aptitude Test (SAT) was anywhere from 2-1 to 12-1, depending on what score was used as the cut-off (Astin, 1974; Fox & Cohn, 1980; Stanley, 1988). Even those girls who were identified as mathematically gifted differed from their male counterparts in several important ways in terms of attitudes and behaviors.

At the time that SMPY was starting, the women's movement was gaining impetus, and Title IX was passed in order to prevent discrimination in education. Thus one might expect to see some dramatic changes in educational and career outcomes for the mathematically gifted female now as compared to then. Not so. Girls were then and are now:

- less eager to accelerate their study of mathematics. In a study of the extremely precocious, those who score over 700 on the SAT I Math before age 13, the gender differences are subtle but pervasive. Far more boys than girls are identified, and the boys are far more likely to accelerate their study of mathematics so that the majority finish high school calculus in or before the 10th grade. The girls, however, are most likely to take calculus in 11th and 12th grade (Kolitch & Brody, 1992).
- less likely to aspire to a career in science or technology. 2/3 of girls and 3/4 of boys said they wanted careers in these areas, but by college only a third of the girls and 60% of boys were majoring in math or science (Eccles & Harold, 1992). Only 12% of girls and 27% of boys among the most able students went on to get doctorates in science or mathematics (Benbow & Lubinski, 1994).
- less confident in studying mathematics than their male counterparts (Fox, 1982; Eccles & Harold, 1992).

While studies of the personalities of mathematically gifted youth found more similarities than differences between girls and boys (Benbow & Lubinski, 1994), the most notable differences were found on career and interest values. Even though both males and females score high on measures of interest in investigative careers and theoretical values, girls, far more than boys, have equally strong, competing interests and values. For girls, but not boys, artistic and social values and interests are very compelling. These are often viewed as "feminine" interests and in some sense "opposing values and interests" to the theoretical and investigative ones that are seen as "masculine." If boys do have strong secondary interests and values, they are most likely to be viewed as "masculine," such as economic and realistic values. Gifted girls also place more value on careers that allow them to help others and to do something worthwhile for society, while boys place more value on careers that allow them to gain prestige or earn a good salary (Jozefowicz et al., 1993). The image of math and science careers as "masculine" may deter some girls from pursuing careers in these fields because they are seen as incompatible with girls' career values and interests.

Two studies suggest the cultural basis of gender differences among the mathematically gifted. Takihira (1995) found no gender differences on SAT I Math-type problems for gifted Japanese students. Byrnes, Mong and Xing (1997) found no difference in mathematics performance on SAT I Math-type problems among Chinese students using samples of gifted and average. The difference between United States males and Chinese females in favor of the females was greater than the difference favoring the U.S. males over U.S. females.

Factors Affecting Attrition Rates

Studies of factors reflecting an impact on career choices, especially those trying to understand what is sometimes termed the "science career pipeline," have used both retrospective recall of women in

- continued on next page

Mystique

continued

careers and longitudinal studies of students moving from high school to careers. Some have specifically tried to look at this issue from the perspective of "giftedness," while others have not. Although it is not possible to prove causation *per se*, several themes have emerged from these studies suggesting the effects of social-educational variables on women's persistence in mathematics and science careers.

- **Course-taking as a Critical Filter**

One of the most comprehensive examinations of the causes of attrition from the science pipeline was done by Hanson (1996) who analyzed data from several different longitudinal studies. She concluded that course-taking in high school, specifically advanced mathematics and physics, seemed to be the ultimate gatekeeper. While the gender gap in course-taking among the more academically able students has been narrowing in most areas except physics and computer science (NCES, 1995; Stumpf & Stanley, 1996), there appears to be little impact upon other outcome variables such as career outcomes and test scores. The question remains, then, that if course-taking in high school has been seen as the gatekeeper and gender differences in that area are improving, why is there still such a gender gap in career outcomes? Could it be that despite gains in course-taking, science and technology are still perceived as a male domain?

- **The Male Domain**

Choices about course-taking reflect students' perceptions about the importance of mathematics and science for their future. One very interesting study suggests that at the college level the image of math as a male domain has shifted for pure mathematics as a major more than for the applied areas such as computers and engineering. Through interviews with gifted undergraduate women and men, Seymour (1995) discovered that women and men mathematics majors did not perceive women as incapable of advanced work in mathematics; however, there was a perception that women were not as capable in mathematics among undergraduate majors in engineering and computer science. It is interesting to note that women make up 50% of all mathematics undergraduate majors, while they represent many fewer engineering and computer science majors. This issue underscores the double bind for women: as long as women continue to be underrepresented in these fields, damaging myths persist about their abilities to pursue careers in science and technology. These myths, in turn, serve to reinforce the under-representation of women in these fields.

Research does suggest that the notion of math and science as a "male domain" translates as girls' concerns about the difficulty of combining parenthood with careers in math, science and technology (Hanson, 1996). Both mathematically gifted boys and girls expect to combine a career with family responsibilities, but girls sense problems doing so, especially in terms of high-powered careers. In a study of gifted middle school students, medicine was the top career choice for girls, while boys were more likely to choose other science careers over medicine (Ries, Callahan, & Goldsmith, 1996). Interestingly, in that study, gifted girls expected to have careers while married with children, whereas the gifted boys expected their wives would stay at home once they had children.

- **Pedagogy**

Another reason why gifted girls may shy away from pursuing science and mathematics when they have the choice may be related to the way mathematics and science have traditionally been taught, especially in programs for the gifted. In one study, equal numbers of mathematically gifted girls and boys expressed interest in accelerating their study of mathematics at the onset of the program. By the end of two years, however, the interest had declined dramatically for the girls (Terwilliger & Titus, 1995). The traditional lecture-based nature of the program and other pedagogical barriers could have deterred girls from further acceleration. Another study of gifted high school students found that girls often drop out of science courses in part because they do not feel the teacher is doing a "good job" of keeping them interested in the subject matter (Riesz, 1991).

Fox (1982) speculated that the underlying gender differences in values and vocational interests have an impact on the way girls and boys relate to mathematics courses. Traditional courses emphasize the theoretical rather than the social benefits of applied science and mathematics. The study of gender differences among the gifted in China cited earlier (Byrnes, Mong, & Xing, 1997) suggested that the teaching methods in China, which emphasize curriculum based on real-world problems, may account for some of the success for girls. Several noted math educators (Kreinberg &

- continued on next page

Mystique

continued

Wahl, 1997) have suggested more cooperative learning activities and more emphasis on authentic curriculum as a solution to the gender gap in the United States.

• **Family Influences**

Parental support may be an important factor for those gifted girls who continue on in science and technology. In one study of very gifted girls, those who were most likely to persist were those who felt they had strong encouragement from both parents (Montgomery & Benbow, 1992). Many of these girls had fathers who were employed in science or technology. Gifted girls who were highly motivated to achieve in mathematics reported strong support for acceleration and high educational expectations from both parents. Parental influences have also been shown to have an impact on gifted students' selection of science or mathematics courses in optional summer enrichment programs (Olszewski-Kubilius & Yasmoto, 1993). Parents, however, who underestimate or ignore the mathematical talents of gifted girls may discourage them from pursuing technical careers.

Socialization processes, at least in the United States, seem to direct young women away from careers in science and technology and may account for the fact that far more males than females are identified as gifted in mathematics in the secondary school years.

Jacobs and Eccles (1992) found that when asked to rate their child's ability in math and science, some parents underestimated the abilities of their gifted daughters while they overestimated the abilities of their gifted sons.

Fostering a Climate for Success

A number of efforts to improve outcomes for girls in terms of mathematics and science have been tried through the years. Unfortunately, some have not documented the impact of the programs in terms of student outcomes over time. Therefore, while research suggests the types of interventions that should be effective, further study is needed to evaluate the effectiveness of various approaches alone or in concert upon girls in general and gifted girls specifically. If gifted girls are to be encouraged to pursue careers in science and technology the following three areas need to be addressed.

• Research on gender differences in general and gifted in particular would support the idea of creating more options for the gifted that are less sex-role stereotyped, as well as those emphasizing the applications of science and technology to solve real problems. For example, instead of choosing between an accelerated mathematics course and creative writing, a summer program for the gifted might offer more thematic instructional units that integrate science and mathematics curriculum material with social studies and language arts. Uses of technology as a tool for communication, data collection and data analysis could become a means and not an end in projects that grapple with real-world dilemmas like recycling, preserving rain forests or finding cures for diseases.

• Gifted classes need to use an active learning approach to mathematics and science. Flores (1991) found that in a geometry course that emphasized the application of the material to real-life situations, girls' test performances increased and on some measures, girls actually outperformed boys. In the traditional lecture-based control group classes, however, a gender gap remained favoring the boys.

Active learning approaches have more benefits than just test performance gains. The Lake Tahoe Watershed Project, a summer enrichment program for high-achieving girls in which students work with female scientists and female teachers on projects related to environmental science in the Lake Tahoe area, found participation increased self-confidence about math and science and helped girls gain insights into the practical application of math and science (Rohrer, 1997).

• It may also be important to offer some programs for mathematically gifted girls that serve as "career education" experiences to help them better assess their options. Smith and Erb (1986) found that exposing middle school students to women in science-career role models had a positive effect on both girls' and boys' attitudes toward women in science. Gifted girls could benefit greatly from exposure to women role models in science and engineer-

- continued on next page

ing given the many social and psychological barriers they face in pursuing these careers.

Post-secondary Education
Numerous studies have suggested the need for changing the classroom "climate" at the college level to encourage more female participation. Several studies suggest the importance of mentoring during the undergraduate and graduate years (Seymour, 1995; Rayman & Brett, 1995). Unfortunately, the under-representation of women faculty in science and engineering departments makes it difficult for young women to establish mentorship relationships and puts additional stress on the few women who are available as mentors. Additionally, some men are reluctant to mentor women students, and at least one study suggests that mentorship relationships with male faculty can actually discourage young women from pursuing careers in science and engineering (Seymour & Hewitt, 1997).

Realities of the Workplace
Women scientists believe that much needs to be done to make careers in science more accessible to those who wish to combine science careers with parenting (National Research Council, 1994). Those in academia think that more time for earning tenure should be allowed for those who are parenting young children. Some feel that salary scales and promotion tracks need to be adjusted to make it easier for women to advance to leadership positions in order to help change the culture (Etzkowicz et al., 1996). Others advocate more on-site child care and opportunities to telecommute to work as ways to make careers in science and technology more attractive to women (National Research Council, 1994).

Unanswered Questions
Clearly there are several unanswered questions concerning the best education and career counseling for mathematically gifted girls. Three basic ones are:

- What are the advantages of single-sex education for girls at the college level? At the secondary level? An interesting review of the literature undertaken by the American Association of University Women (1998) concluded that the results were too mixed to definitively answer these questions.
- Are there additional issues for gifted women of color that need to be considered in planning interventions?
- In the absence of any significant changes in the workplace culture, what is the best way to prepare gifted girls for career choices and career realities? In short what are the career counseling needs of gifted girls?

Conclusions
Mathematically gifted girls and boys do not seem to have the same educational experiences and career choices. Socialization processes, at least in the United States, seem to direct young women away from careers in science and technology and may account for the fact that far more males than females are identified as gifted in mathematics in the secondary school years. Although the gender gap is closing at the high school level in terms of course-taking, gifted girls are still less likely than their male counterparts to persist in the pursuit of careers in science and technology. The continuing perception of these career areas as "male domains" is accurate in the sense that women comprise only a small percentage of those employed in many technical careers.

The dynamics of a changing world and workplace may make it easier for women to succeed in careers in science in the future than in the past. Mathematically gifted girls may need special interventions and counseling to help them separate fact from myth in career planning. Research is needed on several fronts to better understand what can and should be done to encourage gifted girls to pursue technical college majors and careers. In the meantime, programs for the gifted should examine their curriculum and pedagogy in terms of how they are recruiting and retaining girls in science, mathematics and technology. ❖

References

American Association of University Women (1998). *Separated by sex: A critical look at single-sex education for girls.* Washington, D.C.: AAUW Educational Foundation.

Astin, H. S. (1974). Sex differences in mathematical and scientific precocity. In J.C. Stanley, D.P. Keating & L.H. Fox (Eds.), *Mathematical Talent: Discovery, Description, and Development* (pp. 70-86). Baltimore: Johns Hopkins University Press.

Barber, L. (1995). U.S. women in science and engineering, 1960-1990. *Journal of Higher Education, 66(2), 213-234.*

Benbow, C. P. & Lubinski, D. (1994). Individual differences amongst the mathematically gifted: Their educational and vocational implications. In N. Coangelo, S.G. Assouline & D.L. Ambroson (Eds.), *Talent Development.*Dayton: Ohio Psychology Press.

Byrnes, J.P., Hong, L. & Xing, S. (1997). Gender differences on the math subtest of the Scholastic Aptitude Test may be culture-specific. Educational Studies in Mathematics, 34, 49-66.

Cole, J. R. & Zuckerman, H. (1991). Marriage, motherhood, and research performance in science. *The Outer Circle: Women in the Scientific Community.* New York: W.W. Norton.

Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology Development Act. H.R. 3007, Fall, 1998.

Eccles, J. S. & Harold, R. D. (1992). Gender differences in educational and occupational patterns among the gifted. In N. Coangelo, S.G. Assouline, & D.L. Ambroson (Eds.), *Talent Development.* Unionville, N.Y.: Trillium Press.

Etzkowicz, H., Kemelgor, C., Neuschatz, M. & Uzzi, B. (1996). Barriers to women in academic science and engineering. In W. Pearson and I. Fechter (Eds.), *Who Will Do Science? Educating the Next Generation.* Baltimore: Johns Hopkins University Press.

Flores, P.V. (1990). *How Dick and Jane perform differently in geometry: Test results on reasoning, visualization, transformation, applications, and coordinates.* Paper presented at American Educational Research Association, April 16-20, Boston.

Fox, L. H. (1982). *The study of social processes that inhibit or enhance the development of competence and interest in mathematics among highly able young women.* Eric Resources Information Center.

Fox, L. H. & Cohen, S. J. (1980). Sex differences in the development of precocious mathematical talent. In L. H. Fox, L. Brody & D. Tobin (Eds.), *Women and the Mathematical Mystique* (pp. 94-111). Baltimore: Johns Hopkins University Press.

Hanson, S. L. (1996). *Lost Talent: Women in the Sciences.* Philadelphia: Temple University Press.

Helson, R. (1980). The Creative Woman Mathematician. In L.H. Fox, L. Brody & D. Tobin (Eds.), *Women and the Mathematical Mystique* (pp. 23-54). Baltimore: Johns Hopkins University Press.

Jacobs, J. E. & Eccles, J. S. (1992). The influence of parent stereotypes on parent and child ability beliefs in three domains. *Journal of Personality and Social Psychology, 63, 932-944.*

Jozefowicz, D. M., Barber, B. L. & Eccles, J. S. (1993). *Adolescent work- related values and beliefs: Gender differences and relation to occupational aspirations.* Paper presented at Society for Research on Child Development, New Orleans.

Kreinberg, N. & Wahl, E. (Eds.) (1997). *Thoughts and Deeds: Equity in Mathematics and Science Education.* Washington, DC: American Association for Advancement of Science.

Kolitch, E.R. & Brody, L.E. (1992). Mathematics acceleration of highly talented students: An evaluation. *Gifted Child Quarterly,* 36 (2), 78-86.

Montgomery, J. L. & Benbow, C. P. (1992). Factors that influence the career aspirations of mathematically precocious females. In N. Coangelo, S.G. Assouline, & D.L. Ambroson (Eds.), *Talent Development.* Unionville, NY: Trillium Press.

National Center for Education Statistics. (1995). *Condition of Education,* 1995. Washington, DC: Office of Educational Research and Development.

National Research Council. (1994). *Women Scientists and Engineers Employed in Industry: Why so Few?* Washington, D.C.: National Academy Press.

Olszewski-Kubilius, P. & Yasmoto, J. (1993). Factors affecting the academic choices of academically talented adolescents. In N. Coangelo, S.G. Assouline, & D.L. Ambroson (Eds.), *Talent Development.* Dayton: Ohio Psychology Press.

Rayman, P. & Brett, B. (1995). Women science majors: What makes a difference in persistence after graduation? *Journal of Higher Education,* 66 (4), 388-414.

Riesz, E. D. (1991). Keeping the door open for female and minority students in science: Student explanations for course dropping, beliefs in the value of science, and estimates of ability in science. In N. Colangelo, S.G. Assouline, & D.L. Ambroson (Eds.), *Talent Development.* Unionville, NY: Trillium Press.

Reis, S. M., Callahan, C. M. & Goldsmith, D. (1996). Attitudes of adolescent gifted girls and boys toward education, achievement and the future. In K. D. Arnold, K. D. Noble, R. F. Subtonik (Eds.) *Remarkable Women: Perspectives on Female Talent and Development.* Cresskill, New Jersey: Hampton Press.

Rohrer, J.C. (1997). *Lake Tahoe Watershed Project: Fostering the interest of female middle school students in math and science.* Paper presented at World Council for Gifted and Talented Children, July 31, Seattle.

Seymour, E. (1995). The loss of women from science, mathematics, and engineering undergraduate majors. *Science Education,* 79 (4), 437-473.

Seymour, E. & Hewitt, N. M. (1997). *Talking about Leaving: Why Undergraduates Leave the Sciences.* Boulder, CO: Westview.

Smith, W. S. & Erb, T. O. (1986). Effect of women science career role models on early adolescentattitudes toward scientists and women in science. *Journal of Research in Science Teaching,* 23 (8), 667-676.

Stanley, J. C. (1988). Some characteristics of SMPY'S 700-800 on SAT-M before the age 13 group: Youths who reason extremely well mathematically. *Gifted Child Quarterly,* 32, 205-209.

Stanley, J. C., Keating, D. P. & Fox, L. H. (Eds.). (1974). *Mathematical Talent.* Baltimore: Johns Hopkins University Press.

Stumpf, H. & Stanley, J. C. (1996). Gender-related differences on the College Board's advanced placement and achievement tests, 1982-1992. *Journal of Educational Psychology,* 88, 353-364.

Subotnik, R. F. & Arnold, K.D. (1996). Success and sacrifice: The costs of talent fulfillment for women in science. In K. D. Arnold, K. D. Noble, R. F. Subtonik (Eds.) *Remarkable Women: Perspectives on Female Talent and Development.* Cresskill, NJ: Hampton.

Takihira, S. (1995). *Cross-cultural study on variables influencing gender differences in mathematics performance.* Unpublished doctoral dissertation, University of Maryland, College Park.

Terwilliger, J. S. & Titus, J. C. (1995). Gender differences in attitudes and attitude changes among mathematically talented youth. *Gifted Child Quarterly,* 39 (1), 29-35.

Vetter, B. M. (1996). Myths and realities of women's progress in the sciences, mathematics, and engineering. In C. Davis, A. B. Ginorio, C. S. Hollenshead, B.B. Lazarus, and P. Rayman (Eds.), *The Equity Equation: Fostering the Advancement of Women in the Sciences, Mathematics, and Engineering* (pp. 29-56). San Francisco: Jossey-Bass Publishers.

BEST COPY AVAILABLE

FOCUS

Gifted Girls

Joan Franklin Smutny

"Just recently," reports 5-year-old Samantha's mother, "she drew a very accurate representation of the world on a napkin. In her drawing she identified specifically Africa, Europe and Asia, as well as individual countries, like Italy and Turkey. In kindergarten, they've looked over a map of the United States."

"At age 2, she heard Copeland's 'Rodeo' used in a TV ad," Elizabeth's father related, "and identified both title and composer from having heard it once before. In school Lizzy, now 6, does 5th-grade reading and spelling words. Basic principles of science were also too easy for her, so the teacher designs different curriuclum just for her in all those areas."

Emily's parents sat together, with the mother speaking as her husband nodded. "Our daughter's in 1st grade but goes to 2nd for math. The teacher was discussing the commutative property of addition with the class, saying that 3 plus 5 is the same as 5 plus 3. She then asked about subtraction—was 5 minus 3 the same as 3 minus 5. The other students all said 3 minus 5 was impossible, but Emily said it was possible and that it would be 'a number under zero. 2 under.' All by herself, she'd 'invented' negative numbers."

In the above instances, parents describe their young gifted daughters at a time in their lives when the world is a fascinating and wide-open field for understanding and discovery. It is a time often remembered wistfully in later years, when these same children begin a gradual retreat from their talents and lose interest in school. Many parents I know refer to this earlier period and wonder how the wide-eyed, buoyant and energetic girls they used to know became stricken with shyness, isolated from their peers and apathetic about learning, leaving all those many talents and interests barely visible.

Gifted girls often face a range of social pressures in schools, causing them to shift priorities. In an accepting home environment, they may have felt free to be themselves, to pursue with energy and interest any subject that intrigued them. But in school, the desire for friends, a disinclination to stand out, fear of ridicule, along with the need for acceptance, often impel gifted girls to make their abilities appear ordinary or even nonexistent. One parent observed: "My daughter has become very, very shy and doesn't want to stand out in any way. As a result, she's reluctant to express information that would indicate that she knows anything beyond what's asked of her."

Joan Franklin Smutny, *Director of the Center for Gifted at National-Louis University in Illinois, teaches graduate students. Her books include Teaching Young Gifted Children in the Regular Classroom; and The Young Gifted Child: Potential and Promise, an Anthology*

Special Needs of Gifted Girls

Gifted girls from all ethnic, geographic and socioeconomic backgrounds are living an invisible life in classrooms across the nation. Kerr (1994) observes: "A society that wastes female brilliance has made it the norm for gifted women to lead an average life, and gifted women have largely adapted to that norm" (p. 171). The subtle and not-so-subtle messages downplaying the value of female achievement often begin early and accumulate over time. By age

- continued on next page

Gifted Girls

continued

11, many gifted girls do not know they have talents. Others, who know, guard it as a well-kept secret. This means that the abilities they could use to develop their potential are instead wasted on adjusting others' expectations (Eby & Smutny, 1990).

For gifted girls, the discrepancy between ability and self-image may assume different forms, depending on their unique characteristics and background. Gifted girls may be those who:
- achieve well but remain blind to their accomplishments;
- perform poorly despite their high ability and attribute their poor performance to low intelligence;
- are disinterested in school or achievement and excel socially, sometimes assuming popular leadership in negative ways.

These behaviors are signals that gifted girls need help—signals that will become increasingly faint as they grow older. Researchers have discovered that many girls, especially in the junior and senior high school years, have ambivalent feelings about self-expression and experience a conflict between "caring for themselves and caring for others, between their understanding of the world and their awareness that it is not appropriate to speak or act on this understanding" (AAUW, 1992, p. 12).

So, the question may arise: What do gifted girls need that all girls do not? The answer is that while all girls need an ongoing support system for their development and freedom, gifted girls require support that is particularly sensitive to the dilemma that talent brings to the position of females in our society. Gifted girls face a quandary. They have abilities urging them forward, prompting them to explore all that education has to offer, yet education does not run to meet them. When boys ask questions, call out their answers (sometimes without raising their hands) or engage in debate, adults tend to see the signs of eager minds at work. Girls receive reprimands or disapproval for behavior deemed aggressive, pushy, unfeminine or impolite. This message is not lost on gifted girls.

Gifted girls assume all sorts of extra burdens that educators need to understand. Often they don't know about their own gifts and talents. They only know they're different and, for many, they perceive that this difference is somehow strange or wrong.

Consider the story of Leah and her early schooling, what amounts to an object lesson for girls, their parents and teachers. Leah's mother was a visual artist who stimulated her bright young daughter's imagination with books and art projects. Leah entered school as an unidentified gifted child but brimming with the stories and imaginative worlds she had invented. Most of the 1st-grade work bored her, except drama, an area in which she had free reign to imagine and explore. She looked forward to her class's daily drama time, which inspired her and made her feel free. But her mother grew concerned when Leah, who had always talked to herself and run around imagining things, started withdrawing from usual activities and staying up very late, far beyond her bedtime, to carry on with her creative play. Eventually, her mother met with school officials, and Leah was sent to the library during drama time. The little girl was crushed; the only spark of her day had been taken away and she never knew why. All she knew was that this thing she had—what was later understood as her gift, an imaginative force that drove her to explore and discover more and more worlds—was wrong, an unacceptable bent that would get her in trouble. Because she was only 6, believed in this "wrongness" of her passion and didn't want to get into trouble, she didn't question the decision, never spoke of her disappointment. This was the unfortunate beginning of a long and unsatisfactory school experience for Leah; she buried out-of-sight all that made her unique and devoted herself to anticipating others' demands and expectations. How might have things been different for this child if she'd been recognized and encouraged to use her own voice?

In addition to their acute sensitivity, gifted girls play mental games with themselves—learned games they do unconsciously—in response to the conflicting expectations they experience both as girls and as talented people. Two examples frequently explored in the research are:
- "The Horner Effect" or fear of success, in which girls purposely hold back because of a need to please others (rather than compete with them), a need that is more intense with gifted than average girls (Kerr, 1994)
- "The Impostor Phenomenon," in which girls feel pressured to explain away their success since it goes contrary to social expectations and their own self-image. They maintain that they performed well due to luck or because people did not evaluate them properly (Kerr, 1994).

Adults need to develop strategies for helping gifted girls negotiate around this emotional mine field.

- continued on next page

Many talented girls need to learn to recognize their own gifts and the emotional challenges that accompany them (Garrison, 1989). As a group, girls receive far less reinforcement than boys. Research has proven that the content or quality of teacher responses to girls' work differs significantly from that offered for boys' work. Based on a three-year study of more than 100 4th-, 6th- and 8th-grade classrooms, Sadker and Sadker (1994) identified four kinds of teacher response: praise, acceptance, remediation and criticism. "While males received more of all four types of teacher comments, the difference favoring boys was greatest in the more useful teacher reactions of praise, criticism and remediation. When teachers took the time and made the effort to specifically evaluate a student's performance, the student receiving the comment was more likely to be male" (AAUW, 1992, p. 69).

Adults who are not aware of the unique sensitivities of gifted girls may inadvertently encourage destructive behaviors. Alas, sometimes, too much praise and confidence in a girl's ability may make it difficult for her to admit she needs help or result in dismissing her requests altogether. Ellen had this problem. She had considerable musical talent—at a young age she had perfect pitch and played quite expertly on the piano, but she couldn't read music. No one taught her because she already seemed to know how. When she tried to persuade adults that she couldn't, they would actually say things to her such as, "Oh don't be silly; of course, you can. Look at how you play!" Her desire to please increased her fear of failure and, eventually, of having her "flaw" discovered. The expectation that she should be able to do something which she had never learned to do set up her faulty, but not uncommon, logical model. Before too long, any gap in her knowledge made her feel that she was really a fraud. Not being able to read music sowed the seeds of low self-esteem, which her musical talent only intensified. People continued to expect her to perform at an extremely high level, while she herself struggled against this missing piece of musical education. Ellen came to expect extraordinary performance from herself, without having taken the steps or experiencing the freedom to learn and secure a solid musical foundation.

Gifted girls can progress beyond self-defeating assessments of themselves when supportive adults listen to their concerns, questions and comments, and then go on to offer validation and reassuring responses that provide direction for their work. Ellen knew what was missing in her piano playing, but no one listened to her. As a result of her experiences, she began to doubt the value of her own voice—a common experience among girls (Gilligan, 1982). What she needed were sincerely listening adults who would have believed what she was telling them and then honored her requests for information.

Adults who are not aware of the unique sensitivities of gifted girls may inadvertently encourage destructive behaviors.

Characteristics of Gifted Girls
To identify gifted girls in the classroom, educators really must draw from multiple criteria. Rather than rely on test scores alone, teachers should be alert for behaviors that indicate giftedness. Following are some general guidelines for detecting talent in gifted girls.

1. Become familiar with a range of gifted behaviors common in the general population of gifted students. Examples include:

Academic Behaviors
- Reads voraciously and retains what she reads
- Communicates ideas well both verbally and in writing
- Possesses superior analytical and conceptual abilities
- Explores issues from multiple points of view

Creative Behaviors
- Expresses unusual, out-of-the-ordinary points of view
- Demonstrates special ability in the visual arts
- Shows promise in performing arts (music, drama, dance)
- Manifests improvisational ability in a variety of contexts

2. Become aware of the special challenges of gifted girls:
- Low self-esteem
- Apathy, based on resignation or feelings of inferiority
- Fear of taking risks
- Exaggerated concern about being accepted among peers
- Ambivalent feelings about talent
- Conflict between cultural identity and school achievement

3. Examine the signs of potential giftedness in this population. While each girl expresses talent in very unique ways, common indicators include:
- Discrepancies between performance and self-concept
- Discrepancies between

- continued on next page

average or low test scores and exceptional originality, imagination and insight in independent projects or assignments
- Disinclination to participate, despite signs of talent or ability
- Sudden, unaccountable appearance of some ability in a seemingly average girl
- Misbehavior in class that shows ingenuity (despite its disruptiveness) or reveals leadership ability
- Notable contrast between school performance and the abilities, achievements and/or activities reported by parents or community members

Contexts for Discovering Giftedness in the Classroom
In order to find the behaviors that indicate giftedness, teachers need to broaden the range of activities in which talent can occur. Tests and in-class assignments do not always reveal talent in many gifted girls. They may appear to be average students until some unique challenge inspires them. Teacher and parent observations, as well as a greater variety of student projects, will produce a clearer, more detailed view of girls' abilities (Eby & Smutny, 1990).

Gathering information from a variety of sources is even more vital for gifted girls from other cultures and from socioeconomic backgrounds which add unique stresses to their school achievement. Torrance (1977), a pioneer in identifying talent in culturally different and lower-income children, maintained that giftedness often occurs in behaviors that are easier to observe than to measure. He created a list to encourage teachers to think along new lines. The list provided useful examples of talent in populations that do not have all the advantages of a white, middle-class environment. Following are some of these indicators as a guide for locating talent in culturally different girls:
- Ability to improvise with commonplace materials and objects
- Articulateness in role playing, sociodrama and story telling
- Enjoyment of and ability in creative movement, dance, dramatics, etc.
- Use of expressive speech
- Enjoyment of and skills in group activities, problem solving
- Responsiveness to the concrete
- Responsiveness to the kinesthetic
- Expressiveness of gestures, body language, etc. and ability to interpret body language
- Humor
- Richness of imagery in informal language
- Originality of ideas in solving problems
- Problem-centeredness or persistence in problem solving.
- Emotional responsiveness (p. 26)

In the context of formal schooling, peer pressure to underachieve among culturally different students is strong, especially where many of the teachers and administrators are white. In addition, many girls find the competitive structure intimidating and isolating. Gilligan's (1982) research on the moral psychology of women demonstrates how girls adopt an ethic of caring that conflicts with the competitive structures of the classroom. Many culturally different and low-income students experience academic achievement as a betrayal to their social group.

Consider Lakesha's story. An attractive African-American junior high student, she sat silently in the corner, never speaking. Although Lakesha was extremely bright, she was shy and performed more like an average student. Added to her discomfort was the fact that her good looks attracted the attention of the boys who enjoyed staring at her and making remarks just loud enough for her to hear. Lakesha felt uncomfortable about this, because it seemed to make the other girls, with whom she wished to be friends, feel hostile toward her. In response, she retreated into herself. One day, the teacher showed a film about several American artists, including Georgia O'Keeffe. Lakesha was enthralled. As she looked at the O'Keeffe paintings, she felt she could dive into the vibrant colors and shapes and never come back. After the film, the teacher asked the students to write responses—stories, poems, essays—about what they had seen. Lakesha wrote a startlingly beautiful and eloquent poem, which was sincerely admired and praised by both teacher and the other students. This one experience represented a turning point for Lakesha, who continued creating poetry, allowing her considerable writing talent to flourish. The opportunity to choose other ways to explore a subject creates neutral ground, as well as freedom from the constraints and pressures of more conventional assignments. In this case, the simple alternative of a poetic medium gave Lakesha a whole new view of herself as a student.

Another strategy which can bring buried talent to the surface is small-group activities or paired work with students with whom gifted girls feel a freedom to express themselves. This can be particularly effective in math and science, where, for reasons having nothing to do with competence or talent, female achievement in all socioeconomic populations has lagged significantly behind male

- continued on next page

Gifted Girls

continued

performance (AAUW, 1992).

Another girl, Magdalena, had mathematical talent. Her mother remembered how quickly she computed the prices in the grocery store and how she enjoyed calculating what they would save if they bought the cheaper brands. Magdalena was a Latina who attended a school where the other Latina girls, her best friends, did not share her academic interests or drive. But Magdalena continually resisted placement in groups with students who shared her intellectual needs and who performed at her level; over time, she was becoming an average student. As with Lakesha above, sometimes individual acts can influence a person's self-perception and approach, and so it was also with Magdalena. Her teacher gave the class a math problem, allowing students to work with friends. Magdalena quickly grouped together with her two best girlfriends, both of whom were very weak in math. Throughout the exercise, she enjoyed helping them understand the concepts, and, in the process of answering her friends' questions, they discovered a new approach to the problem. Because her friends benefited from Magdalena's talents and felt affirmed by their joint success, she felt renewed encouragement to express her academic gifts. Recognizing this small spark, the teacher looked for such opportunities and incorporated more "elective groupings" in her lessons.

Cooperative activities that focus on invention and exploration will offer teachers more opportunities for discovering math and science talent in gifted girls and encouraging them to develop their gifts. This would be especially helpful for gifted minority girls who feel they have to pay, at least initially, a high social price for exceptional achievement.

It is important to understand that identifying gifted girls demands more than simply expanding the methods of identification. Concerned teachers may need to consider at least some minor *changes in the instructional strategies and activities they use.* Girls cannot express talents for teachers to identify if the conditions for their expression do not exist. Even a few activities, integrated now and then into the regular curriculum, can encourage them to take risks.

Gifted girls crave freedom. They long for someone to see who they are, open the often closed door of their minds and say, "Go, fly!" Since they cannot give themselves permission to fly, they need the aid of a discerning adult. For gifted girls, a sensitive, caring teacher may be all that stands between quiet resignation and the beginning of fulfillment of their potential.

Torrance (1983) perhaps provides the best guidance for the gifted girl who is unsure of where to turn when he suggests:
1. Don't be afraid to fall in love with something and pursue it with intensity and depth.
2. Know, understand, take pride in, practice, develop, use, exploit and enjoy your greatest strengths.
3. Learn to free yourself from the expectations of others and to walk away from the games that others try to impose upon you. Free yourself to "play your own game" in such a way as to make good use of your gifts. Search out and cultivate great teachers or mentors who will help you accomplish these things.
4. Don't waste a lot of expensive energy trying to do things for which you have little ability or love. Do what you can do well and what you love, giving freely of the infinity of your greatest strengths and most intense loves (p. 78). ❖

References

The American Association of University Women Educational Foundation.(1992). *The AAUW report: How schools shortchange girls.* Washington, D.C.: AAUW Educational Foundation and National Education Association.

Eby, J.W. & Smutny, J.F. (1990). *A thoughtful overview of gifted education.* New York: Longman.

Garrison, C.N. (1989). The emotional foundation of gifted girls. *Understanding Our Gifted,* 2(1), 1, 10-12.

Gilligan, C. (1982). *In a different voice:* Psychological theory and women's development. Cambridge, Mass.: Harvard University Press.

Kerr, B.A. (1994). *Smart girls two: A new psychology of girls, women and giftedness.* Dayton: Ohio Psychology Press.

Sadker, M. & Sadker, D. (1994). *Failing at fairness: How America's schools cheat girls.* New York: Scribners Sons.

Torrance, E.P. (1977). *Discovery and nurturance of giftedness in the culturally different.* Reston, VA: Council for Exceptional Children.

Torrance, E. P. (1983.) The importance of falling in love with something. *Creative Child and Adult Quarterly,* 8 (2), 72-78.

FOCUS

Compiling a Life's Work: A Conversation with Computing Pioneer Fran Allen

Karen LaBonte

For those of us who parent, teach, counsel and care about gifted girls, it is an amazing time. On the one hand, our girls are vibrant with promise, and the future is more open to them than ever before. But on the other, the terrain is all new, and no markers show the way. The news that comes back from the frontier can be troubling, particularly for those of us with girls who love math or science. We hear that by 12th grade, boys in advanced math outperform girls, despite similar knowledge levels (NCES, 1999). We see small percentages of women earning advanced degrees in engineering, math or science (CRAC, 1999). We hear about the isolation of women in their university or industry positions (Seymour & Hewitt, 1997). We wonder how we will ever raise girls with enough courage to become who they want to be. And so, we look to the women who have done it, to their lives for clues and to their spirit for inspiration.

Frances E. Allen, IBM Fellow, is one such woman. A fellow of the American Academy of Arts and Sciences, the Association of Computing Machinery, the Institute of Electrical and Electronics Engineering, a member of the National Research Council's Computer Science and Telecommunication Board, the Board of Computer Research Associates, the National Science Foundation's CISE Board, an inductee of the Women in Technology Hall of Fame, her list of accomplishments goes on and on.

Often referred to as a pioneer in the field of supercomputing, one colleague describes Allen as a visionary. "She can find pathways in the forest no one else sees. What excites her is going where there are no trails, no markers. In computer science, there's where you are and where you can go. For her, the adventure of the journey is just as important as where you end up."

Fran Allen

"I like to be working out on the edge," Allen said of her style and career. "I really like challenges of all kinds."

In addition to her vast professional achievements, Allen is an accomplished mountaineer and skier, and she possesses a unique ability to integrate all aspects of her life. She draws few lines between work and personal life, scientific and wilderness exploration, social and technical issues. And, where lines are drawn for her, Allen works to break them down. Hers is a rich and optimistic outlook, enabling her to reach conclusions that reverberate in each area of her life. And Allen's enthusiastic ability to persuade others to see in a new way makes her a true catalyst for change.

The Beginning

Allen grew up in the foothills of New York's Adirondack mountains. Peru, a farming community, was a tiny village with one central school; Allen's high school graduating class numbered 23 students. "We were all just a bunch of farm kids. We had a lot of

- continued on next page

***Karen LaBonte** is a freelance writer who lives in New York.*

Allen

continued

confidence in ourselves, in part because it was so small. When I look back, it's funny—I, who am five foot two, was on the basketball team. I had no sense that math was something girls weren't or were supposed to like. It was just that everybody did everything."

In 1954, Allen graduated from college and became the high school math teacher in Peru. She taught for two years, and loved it, but needed a master's degree to become fully certified. "I took a year off and went to the University of Michigan to get a masters in mathematics. I fully intended to come back and teach."

But the year in graduate school left her in debt. When IBM interviewed on campus in the spring of 1957, Allen took a job at their Research Division, planning to pay off her debt and return to the classroom. Within two years she had been tapped to head a research project in program optimization. "That was the end of high school teaching," she said, laughing.

Allen laughs easily and deeply. Her eyes sparkle with energy, and color rises and falls in her face as she talks about the things that matter to her: technology, women in technology and the future.

Pioneering a New Technology

"It's been a marvelous career. We [recently] celebrated 50 years of computing, and I've been doing this for 40 of those 50 years."

As in many fields, supercomputing has had its ups and downs. "In periods where there wasn't much happening, an exciting idea would come along and completely reinvigorate the field," Allen said. These cycles in science have long interested her. "Something comes and changes the way you see," she mused. Still, "I've remained interested in the high performance machines and, in particular, the compilers and languages to let people use them more easily."

These high performance machines, or "supercomputers," are used today to create models of reality in order to solve complex problems. Compilers are the software programs that combine huge amounts of data, including complicated instructions and myriad possibilities, into specific directions a computer will follow. A good compiler increases the speed and efficiency of the machine. "One of my goals has always been to make it easier for the people who are solving problems," Allen said.

Perhaps the best known supercomputer is IBM's Deep Blue which, in 1997, was the first to beat a human chess master at his own game. Supercomputers today are used to do long-range weather forecasting, map models of DNA, find oil on the ocean floor, even explore Mars. In supercomputing, speed translates into economics. Allen has been on a push for greater performance, speed, accessibility and ease in programming ever since she began.

"I'm even more optimistic now about our potential to solve some very difficult problems," Allen stated, "problems that had previously been thought to be unreachable," such as global warming and nuclear test simulations. "We're getting to the point of being able to simulate and model the earth's climate, and to answer questions more definitely. It's very exciting."

Despite some inevitable failures along the way, Allen always remained optimistic and continued working, always looking to what lay ahead, what was possible. "One always feels terrible about failing," she said. "On the other hand, in anything we do, if we're really taking risks, stretching the limits in some way, including our own limits, we're going to fail sometimes. And an important thing is to be able to turn those failures into successes. But it always takes a while to get to see that."

How did Allen become so resilient? "I think that loving to explore, whether it's scientifically, or in the mountains, is really a part of me. I've always loved to be out, sort of pushing. I think I am better known for being out ahead of my time than for finishing anything I'm working on." She laughed again, then added, "That's not a good piece of advice to give anybody."

Allen has trekked in Tibet and Nepal and made seven or eight first ascents in the Arctic. She remembered her favorite climb, the first ascent of a mountain about 20 miles up a glacier. "We were at the top of the mountain at midnight, the Arctic sun in the north and the full moon rising to the south—it was incredible."

"The head of that expedition thought we women really should do the cooking and leave the climbing to the others. But the first night he mentioned that, we straightened him out on that role!"

- continued on next page

Allen

continued

Women and Computing

Allen's career has been remarkably fluid. "Some of the time I've been in product development, some in sabbaticals at universities. I've liked to switch. I'd get restless after a few years of doing some of the scientific work; I'd want to make something applied, very practical. Then, after I'd been in a heads-down-make-it-happen mode, that would get tiresome. I'd think, well I wonder what's really going on in that area, or, there's so many interesting problems we couldn't explore in building this, and I'd come back to research.

"I didn't think of myself as planning a career. I made good decisions—and some bad ones." She paused, laughing again. "I realized [my career] developed probably because I was just following my own instincts. I think it's important that everyone try to find what they themselves want, and not let the system tell them what they want. I feel quite strongly about that point. Because sometimes what one wants to do will be unpopular—it will not be what the system thinks should be right."

Allen can trace the progress of women in computing through her own career. "IBM has always been a good place for women. In 1959 I was a first-line manager on the Stretch project, and three of the four first-line managers were also women." Because formal computer science courses and degree programs did not yet exist, "they were hiring people with all kinds of backgrounds. English majors, math majors, economists—we were all just kind of in there together. It was a very exciting time.

"That changed in the 60s very much. Where one thinks of the 60s as being a time where there were equal rights, set processes started to come into the way one approached the [technical] work. One had to have credentials. Graduates were coming from mostly engineering schools, which were traditionally male. In the mid-70s at Research, I happened to be at an all-managers meeting for the Computing Department. Out of the 104 managers there, *four* were women. No progress had happened. I must say I was very discouraged about the situation with women less than 10 years ago. *Really* discouraged."

Allen has since bounced back and has a whole new perspective. "Having a few outstanding women isn't going to make the difference that just having lots of women does to change the milieu. We have a long, long ways to go, but these [newer and more positive] numbers I'm seeing in the sciences, and in undergraduate and graduate positions, caught me by surprise. These numbers are challenging comments people have been making about how women are not doing so well."

She talks about reaching the goal of a science and technology workforce that's equally women and men by the year 2020. "50/50 by 2020. My friend, Anita Borg, coined that phrase." [Dr. Borg is founding director of the Institute for Women and Technology at the Xerox Palo Alto Research Center.] When Borg and Allen first talked about it, Allen didn't believe such an expectation was realistic. She's since come around, offering a number of factors that swayed her thinking.

"What's happening now is very interesting for women. For one thing, there's a great deal of need for people to work in the field, at all levels, male or female. There are more job openings now, at all levels, than there are people to fill them. That creates an opportunity.

"But a more interesting kind of opportunity is coming because of the state of the technology. We're in the middle of a huge revolution. Computers are available in homes and schools, and online communication and the data are becoming pervasive. What it's doing is changing computing and how we view computers. Whether we collaborate with people over long distances, create, do art, whatever it is -- computers are no longer the fiefdom of the technologist or the scientist. It's everybody's technology."

As the field opens, Allen suggests that women offer important perspectives. "There's material written recently about how girls view computers, not as gadgets, but as tools they can use to achieve something. One had always assumed that the problem [with girls and computers] was that girls were not spending as much time with computers, but it's that they—we—view computers differently, kind of put them in the right place. I think women can do a great deal with understanding a more holistic view of the technology, and a more altruistic view, where you kind of say, This is what's going to be useful for this kind of person, this kind of child."

- *continued on next page*

Allen

continued

Women in the Workplace
Women are also recognizing disparities in the way men and women fit existing structures of work. Allen points to documented differences in the working styles of men and women. "Women tend to be much more goal-oriented about meetings, about accomplishing things. They make much, much better use of their time—they have to, they're balancing many more things. They expect to come to the meeting, get something done and go."

Some work-style differences can have a profound impact on an entire field. "There was a fascinating paper which very definitively showed that in science, women tend to do papers that are more comprehensive; therefore, they publish fewer papers. Because they've published fewer papers, they're not as likely to get tenure."

But now, the question of what constitutes good work is open for discussion. "25 years ago, the answer was: If it's approved and accepted by your peers. At last year's Symposium on Women and Technology at the New York Academy of Sciences, people did not believe that was the right measure," Allen related. "It was suggested that we were previously accepting male judgments about the work, and now we're trying to establish our own criteria. I think one of the implications that came out of the meeting is that there has to be a broader acceptance of working styles. That's true if you're going to get promotions in management or be rewarded at work.

"What is it I see around IBM all the time? Great women, great scientists, who, in meetings, are willing to play the facilitator role. They're the ones who will include a lot of people on [the authorship of] a patent rather than say 'I'm going to file this patent all by myself.'"

When Allen is reminded that she's described her early work on compiler languages as a team effort, she laughs. "It's true—women do that all the time. It's a very standard way, and it's not valued in the same way. I think people are beginning to recognize that."

People are also beginning to recognize that in differences lie strengths. Allen points to the new head of the National Science Foundation, appointed in the fall of 1998. Dr. Rita Colwell, a highly regarded microbiologist, embodies the holistic approach Allen has noted in women. The author of many papers, Colwell's work in isolating the cholera cycle in Bangladesh also has real-world implications for making life better for people. As striking to Allen is the way Colwell integrates personal experience and impressions in decision-making, along with the openness with which Colwell discusses these. "I think this will have a tremendous impact on the kind of research we see coming out of the NSF in the future," said Allen.

Yet, as positively as she sees the big picture, Allen worries about what women face in the daily workplace. "When I see what women are doing—it's just too much. I have a hope that women will not be so stressed by all the work pressures, the bringing-up-small-children pressures, the craziness that goes on in their lives. I see it and I wonder, how do they do it? Somehow we have got to put this together better—how to let people grow, raise children *and* have careers."

Allen says that for women in technology and science, the main issues tend to be how to work fewer hours, deal with frustration over lack of recognition and cope with and influence the environment, particularly the feeling of being an outsider. Allen described a seminar she and Xerox PARC's Borg led last year at which these very issues came up. Organized by an IBM group in Toronto, the seminar group of about 50 women were IBM researchers, university professionals and graduate students. Borg wanted to talk about the influence women could have on technology, but that never happened. Instead, Allen and Borg threw away their agenda, formed a circle and listened to the women talk. Allen explained, "They weren't ready to talk about [action] at all. They needed to talk about their workplace issues and their work lives. They began to get through some of this, to realize they weren't alone with it."

Seeing the Future
Allen herself is ready to pursue action towards change. "I believe that if instead of focusing on all the difficulties and the barriers, if some of us who have been in the field for a long while get to work and get rid of the barriers as much as we can.... If we can push the change for others so they don't have the same experiences that we've had...." Pauses punctuated Allen's thoughts. It is a daunting mission. Still, she sees progress in a variety of settings. She described a network of professional women, *systers*, which she's

- *continued on next page*

Allen

continued

tracked for some time. Founded by Borg in 1987, *systers* (taken from "systems") is an online community for technical women in computing. With 2,500 members from 25 countries, anecdotal evidence suggests that many women have stayed in computing, because of the advice and support they received on *systers*. "It's like a support group," Allen explained, "which makes a terrific difference in the power one feels to take action."

Allen sees power as "confidence in oneself, especially if one's approach is unique.... One doesn't have to have a title or a position or anything like that in order to have power; it should actually come with the respect one engenders from what one is doing. But I think it's hard for women to see themselves as having that power sometimes, particularly in an industry such as computing, or an organization which is very hierarchical and where men hold the power.

"One of my favorite words lately is 'integration.' I've been using it in some technical work I've been doing. We can't see all these computers as separate anymore. We've got to think of them in a more holistic way and try to deal with those issues because of the problems and the solutions we're providing more holistically. And people are part of the solution," Allen said.

"We've got to view people and their ability to make decisions, to create, to make mistakes, as a piece of what happens as we're trying to solve problems [technically]. Work is not separate from the person and the way they approach their work, or the qualities they bring to it. Trying to fit them into some pre-defined mold is not going to provide a good environment. We've somehow got to find how we can accommodate, technically and in society, all kinds of people and situations."

It is this kind of successful integration of vision, thought and action that earned Allen her IBM Fellowship, the highest honor that company bestows on any of its employees. The story of Allen's award has become a classic in her circles.

For Allen, the thrill of the honor she was to receive was intensified by the presence of close friends at the awards ceremony. She recalled that evening's festivities, the culmination of the multi-day Corporate Recognition Event and described the announcement, the applause and the presentation of a plaque.

"I was so excited, I hadn't even *looked* at it," she said, referring to the plaque. But back at her table, friends did, and gasped, and then laughter began to ripple from their corner. They'd discovered that the inscription read, "For Frances E. Allen/In recognition of his contributions to computer science."

"The awards staff immediately wanted to take the plaque away from me. I said, 'Absolutely not!'" And although the company gave her another, bearing the correct possessive adjective, Allen hung the original in her office, refusing to relinquish it. Its irony is lost on no one.

For herself personally, Allen has rejected a traditional view of retirement in favor of something new. "I know I can't leave the intellectual excitement of where I am. It's like going to a candy store every day. I need that, and I would miss it terribly." She hopes instead to gradually shift her focus to include more reflection, more writing, more work on women's issues.

One can almost see Fran Allen sit down to probe the ideas, the people, the experiences of all the wildernesses she has loved, the terrain she continues to explore. For our girls, Allen's thoughts and words become as valuable as guidebooks. For those of us who journey with these girls, or who seek a path ourselves, Allen inspires us to envision whole new vistas for the realization of human potential, and we step onto them, emboldened by her uncrushable spirit. ❖

I am grateful to Dr. Ron K. Cytron, Associate Professor, Washington Universtiy, for his perspectives on supercomputing and the history of compiler development.

References

Allen, Frances E. 1998. Personal Interview.

Borg, A. 50/50 By 2010: *A Consortium To Realize Female Potential in Science and Engineering*. January 15, 1999. http://www/systers.org/keeper/5050.proposal.html

Computing Research Association Committee on Status of Women in Computer Science and Engineering. *Science and Engineering Doctorates Awarded in 1995*. National Science Foundation/SRS, Survey of Earned Doctorates. January 8, 1999. http://cra.org/activities/craw/stats.html

National Center for Education Statistics. *Pursuing Excellence: Initial Findings from the Third International Mathematics and Science Study*. January 5, 1999. http://www.nces.gov/timms/twelfth#executivesummary

Carousel

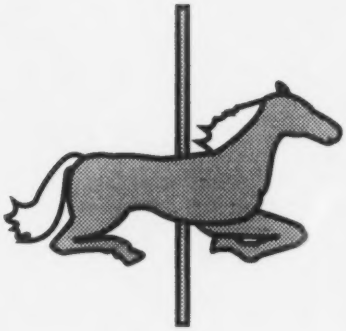
Monique Lloyd

Girls and the M Word

When I was growing up and attending school in the 1950s and 1960s, girls' career aspirations were generally limited. If we thought much beyond being wives or mothers, it was to fill the socially accepted careers of nurse, librarian or teacher. Instead of becoming physicians or architects we dreamed of marrying them; the thought that we could actually have such a career was beyond most of us. It was only in the 1970s that young women and girls began to open their eyes to see that, just like their brothers, they could indeed be anything they wished to be.

Because I am foreign born I always thought of myself as different and an outsider, and as a result I didn't feel as much pressure to be popular or to fit in. I didn't realize it then, but this outsider status gave me great freedom to do well in school and to compete with boys academically. I was always surprised when someone told me that I couldn't or shouldn't do something because I was a girl.

I hit a major road block when I was denied admission to law school. My official rejection letter stated that there was some concern because of my age. I'd applied as a 19-year-old college senior with excellent grades, test scores and letters of recommendation, and I couldn't understand what the problem might be. When I called the head of the admissions committee and asked for more information, the truth came out. "Honey, " he told me, "if you want to marry a lawyer, all you have to do is hang out around the law school library." It was clear that it wasn't my age that concerned them, but my gender. I discovered only later that at that time the only women who had been admitted to this particular law school were in their mid- to late-20s and married. How things have changed!



Or have they? The roadblocks young women put in front of themselves now often seem to be of their own making. I realized this a number of years ago when I was helping in a 5th-grade classroom. The students were making geometric designs on pottery tiles. As I walked around the room it was easy to see how boys and girls worked differently. The boys mostly worked independently. If one didn't understand something he'd watch another boy quietly to see how it was done. Sometimes a boy might ask another a question, or one who understood the process would show another how to do it without saying anything. The girls, however, worked in groups of three, four or five and disparaged their own abilities. These were my son's classmates, and I knew most of them well. I heard the brightest ones saying, "This geometry stuff is really hard." And, "I'm just not good at math." When I heard a girl say "I'm not good at math, just like my Mom," I half-jokingly asked her if she really believed there was some sort of bad math gene that

- continued on next page

***Monique Lloyd** lives in rural Oregon with her husband and their four sons. She is the listowner of ORTAG, an e-mail forum for discussion of Oregon TAG-related educational issues.*

M Word

continued

was passed down from mothers to daughters.

While the girls' comments surprised me, I understood them. For most of my life, math was one of those four-letter words. When I read a problem beginning, "If one trains leaves Chicago traveling at 55 miles per hour and another train leaves Los Angeles traveling 75 miles per hour..." my palms would begin to sweat, I couldn't breathe and my eyes would glaze over. It wasn't until my husband, tired of years of my whining that I couldn't do math, insisted I take a university level math class and I discovered that not only could I understand mathematical concepts but that I actually enjoyed it, that I was able to get over my fear and aversion. I didn't want these girls to have to wait as long as I did, but I wasn't sure what to do for them.

I spoke to the high school principal and asked him how many girls took higher level math courses. "Too few," he lamented. When I asked him why he thought that was so, he stated that it was probably because no one encouraged them. I thought about how I could change this and came up with a plan.

I went to the middle school principal and offered to tutor girls in math. I enlisted the help of a few other mothers who were also willing to do this. Our tutoring had an effect, we realized, as the middle school girls we worked with began to see that they were capable of doing math. What's more, it wasn't just knowledge about math they were gaining but the powerful realization that girls and women are just as able as their male counterparts. Over time, having mathematically competent female role models to work with seemed to make a great difference, and now girls are equally represented in our district's high school upper-level math classes.

What these mothers and I did wasn't earth shattering and didn't change the lives of many, but it was a start. One thing I've learned in my years of advocating for students is that getting grand and widespread changes seldom happens. Small and simple changes build and grow. Taken together, eventually they will lead to our reaching larger and loftier goals. ❖

Look For Specials In This Issue

Notes From Home

Allegra Sanchez

As Is

They come with televisions, cookware, computers, cars, houses, furniture and food. They come with different wording, are of different durations and different details. Sometimes they're free, sometimes you have to buy them and sometimes you can buy extra ones. It's those ubiquitous guarantees, the warranties manufactures attach to their products hoping to induce us consumers to buy one product over another. In some cases, our satisfaction is guaranteed. And we seem to like them and use them; we even seek them out. Guarantees have become so much a part of our lives that we tend to feel uncomfortable when acquiring an item marked "as is." If we're not completely satisfied, we expect to get our money back. But this penchant we've developed, the expectation of knowing ahead of time that things will please and perform well for us, can work against us. Sometimes, the desire for a guarantee that can't be given might stop us from doing what just might be in our best interests.

Take homeschooling, for instance. A friend is interested in homeschooling her two gifted girls, both of whom are in middle school, both bored silly. One harbors a lot of anger and the other suffers from depression; in neither case is the school situation helping. They've faced rejection and resentment from their classmates, inadequate instruction and too few challenges. My friend asked me to speak with her husband, who is very skeptical about homeschooling and who had many questions. The skepticism is normal and to be expected when first contemplating such a major life shift, and I'd have been surprised if he hadn't had so many questions. What I wasn't prepared for was the nature and depth of his uncertainties.

As we sat down to talk one afternoon, he started right in with the problem that was bothering him the most. What about math, he wanted to know. How will they learn algebra and geometry and the other mathematical disciplines they'll need to know in order to take the SAT and get into college? I explained how we do it. I told him about the self-study guides, the workbooks, the texts which are all easily available. What if they need help understanding a concept, he wondered. He knew neither he nor his wife, in no way mathematicians, would be able to explain complicated theory or oversee work on elaborate equations or problems. Homeschooling, I explained, didn't mean parents had to be their children's only teachers. Homeschool support groups often provide cooperative-type learning situations in which one member is fully capable of teaching math, another English, another science and so on. Some umbrella schools provide any and all assistance needed. There's also a wealth of information available in the library, as well as on

- continued on next page

***Allegra Sanchez** is a writer, volunteer worker and homeschooling parent of two gifted children. She and her family live in Texas.*

Notes

continued

the Internet. Some online service providers have homework helping areas that homeschoolers use. He nodded, but I could see that he wasn't convinced.

Then he asked about the extras that the children were getting in school. His older daughter loved the theater arts class she was taking, pointing out that it was the only class she really enjoyed and the only reason she ever wanted to go to school. What about that, he wondered. And what about art and music? I told him about my son Miguel's class in physical comedy and how that was paying off in many ways—not the least of which was that he could perform his ever present pratfalls in positive ways and without getting hurt. He was also learning some about acting, directing, stage make-up, costuming and production by being involved at the community theater in our town. Linda, my daughter, would be taking a ceramics class at the local college this spring, I told him, and is teaching herself to play the piano. She's doing very well at it, too, I added.

He nodded again, but still there were question marks in his eyes. The next question was about extracurricular activities. His older daughter was in a service club at school which did projects out in the community. How would they go about providing that type of education if they homeschooled? I pointed out that volunteering wasn't restricted to service clubs in schools. Linda volunteers once a week at a nearby preschool, and Miguel and his dad have a regular work time every other week at the local Humane Society. Both children enjoy their work immensely. I reminded him, too, that his younger daughter's Girl Scout Troop did many community projects throughout the year and that there was no requirement to be in school in order to be a Girl Scout.

When we'd exhausted the topics of academics and outside activities, he asked about cost, stating that it appeared to be rather expensive. I told him they could spend as much or as little as he wanted to on homeschooling. He could buy canned curricula for several hundred dollars or go to the library for nothing. The classes that Linda and Miguel take are classes they would want to take, and we'd pay for, even if they were still in school. The difference is that they now have the time to do more of what interests them, and they can fit it more easily into their schedules.

The conversation continued in this vein for another hour. The more questions I answered, the more he presented. It was beginning to seem as though he was trying to stump me, hoping that if he asked the right question I'd finally say, "No, homeschooling won't provide for that situation." I was wondering what was really going on in his head when he looked at me and asked one more, defining, question, "How can I be sure that homeschooling will work out?" It was clear to me then what the real problem was: He wanted a guarantee. He wanted assurances of the type he was used to with the public schools: report cards every six weeks, parent-teacher conferences, promotion from one year to the next until the assembled product comes off the belt wearing a cap and gown. Of course, I couldn't give him that.

The fact is that there are no guarantees with homeschooling just as there are no guarantees in life. We take what we're given and we go from there. In reality, there are no guarantees with schools either, but we're conditioned to believe that putting our children in the door at kindergarten and congratulating them 13 years later in a big ceremony is what will prepare them for their future. And in some cases it does. Some children thrive in school and go on to lead happy, productive lives. But what about my friend's children? What about the boys and girls who cry in the morning, filled with dread about what will happen to them in school that day? What about those for whom school represents a string of dismal hours in which there is nothing new for them to learn? Is their emotional health worth the price of a perceived consumer guarantee?

In our home I can readily see that homeschooling is the right choice for us. Linda and Miguel are thriving, and seldom do we see the behaviors that were so troubling before we took them out of school. Our daily conversations convince me that they're learning steadily and that they'll know as much, or more, of what they'll need when it's time for them to leave home. Their observations and questions assure me that they are, indeed, capable and critical thinkers. Watching them blossom in these ways is all the guarantee we need. ❖

Surfing the Net

Sandra Berger

In a move calculated to enhance PricewaterhouseCoopers' visibility and reaffirm that the Internet has changed our lives, the nominees for the annual Webby have been announced. This award, a project of the International Academy of Digital Arts and Sciences and one of three that honor Internet sites, holds its annual ceremony in March. The other two annual awards are the Cool Site of the Year Awards (chosen by Web users) *http://cool.infi.net/csoty/index.htm* and the Global Information Infrastructure Awards *http://gii.com* (more serious in tenor). The nominees, announced on Webby's site *http://209.249.142.147/*, include 22 categories which are reassessed annually to ensure timeliness. You can vote for your favorites in what's called "The People's Voice." After looking at the nominees, follow the instructions to register. They will send you a password and the URL of the secure People's Voice voting area which supposedly prevents anyone from voting more than once.

This whole process would seem rather silly if it were not for the increased popularity that awards bring to a Web site. Wherever you go these days, Web sites are sprouting award banners. I predict that soon we will see the ubiquitous Web site award banners on our television screens, on roadside billboards and in magazine ads. As Internet commerce increases and becomes even more successful, we'll see other changes as well. For the first time this past year, Internet sales of merchandise were substantial.

With the acceptance of the Internet for commercial purposes, it becomes even more important to teach our children to think critically and become cautious consumers. Teachers who receive corporate-written teaching materials that push a company's products should be aware that using such material implicitly endorses the products and means they are being used to advance commercial messages to naive students. On a more positive note, the awards might draw our attention to high quality, useful Web sites that we never would have found. For example, a visit to *Scientific American*, one of the Webby Award nominees, led me to several science e-zines—*Science Week, Inscight* and *Itty Bitty Blackboard*. The online science e-zines led to other interesting science-related sites, like "How to Make a Great Poster," useful information if you are planning a science fair or project. This column previously visited two of the science nominees: the Exploratorium and NASA. However, I didn't know then about the University of Arizona's biology project, designed for college students; the content and materials might be used with younger gifted students who are interested in different areas of biology. Also included in this column are some science Websites that should have been nominated for the Webby Awards because they offer high quality concepts and content and encourage the habits of mind that must be acquired if one is to be a scientist.

***Sandra Berger** is the Information Specialist for Gifted Education at the ERIC Clearinghouse on Disabilities and Gifted Education in Reston, Virginia. She is the author of College Planning for Gifted Students.*

Our tour will begin with *Scientific American*, one of the science nominees for the Webby, then stop briefly at the science news e-zines and the poster site, move on to the University of Arizona biology project and conclude with my personal nominees for sites

- continued on next page

Surfing the Net

continued

that encourage scientific thinking in gifted students. Don't forget, if you are interested in all the Webby nominees, the Web site is *http://209.249.142.147/*. (Note: In the early days of the Web, all sites were identified solely by numbers.)

SCIENTIFIC AMERICAN
http://www.sciam.com
This popular e-zine makes available at least two full text articles and an interactive "ask the experts" site where scientific experts answer e-mail. During my visit, I read about the development of the laser. An animated graphic from Bell Labs showed how a beam of laser light is triggered in a rod of ruby crystal by a flash of light. Other features include exhibits of scientific concepts, interviews and a marketplace—a very searchable and comprehensive site. While you are visiting, be sure to look at "The Internet: Bringing Order from Chaos," a special report from *Scientific American*. *http://www.sciam.com/0397issue/0397intro.html*.

SCIENCE-WEEK (SW)
http://www.scienceweek.com/Science-Week, an online weekly digest of the news of science, was free until recently and now requires a nominal fee for its full services. However, *Focus Reports*, available at no charge, explain and summarize cutting edge science and provide syntheses of current research. *SW*'s Web site provides a wide variety of previously published Focus Points. Also at no charge, subscribers can receive via e-mail each new *Focus Report* when it is released. To receive *SW Focus Reports* free via e-mail, send a message to *reports@scienceweek.com*.

INSCIGHT
http://www.apnet.com/inscight/
InScight is a joint project of *Science* (journal of the American Association for the Advancement of Science), and Academic Press. *InScight* offers daily news features from the world of scientific research. Each daily feature links to related sites, including research updates, Academic Press publications and other Web resources. Recent features highlight the benefits of bacteria and the role of enzymes in preventing death due to stroke. When I visited, the lead story was about superflares, with links to other Web sites providing more information.

ITTY BITTY BLACKBOARD
http://ittybittyblackboard.com/
http://ittybittyblackboard.com/science.htm
The *Itty Bitty Blackboard* is designed as "a reference source to go along with today's science news." The site offers a brief synopsis and links to the full text of stories in five fields: Astronomy, Biology/Medicine, Earth Sciences, Weather/Climate and Other Sciences. Also included are special reports, some Skywatch news for amateur astronomers, science trivia and a Site of the Week award. Users can learn more about 14 selected topics, such as the sun, eclipses, meteors, tides and waves and the weather from the scienceguides page *http://ittybittyblackboard.com/science.htm*, accessible from the *Blackboard* site. Each guide is illustrated (some also have animations) and offers a number of links to related sites. When I visited, they were redesigning to incorporate hurricanes, tornadoes and other animated weather pages. A notice said that they will also feature a new section of science basics (How Planes Fly, Gravity and more). And they're adding search capabilities and a bulletin board. Students and the general user with an interest in science and science news will enjoy this site.

HOW TO MAKE A GREAT POSTER
http://www.aspp.org/education/poster.htm
One experience common to scientists, especially beginners, is the presentation of their research at scientific conferences, using a poster format. This is also true of students who participate in science fairs. A researcher at the University of Washington at Seattle has created a useful tipsheet on how to make a great poster. Placed online by the American Society of Plant Physiologists, the tipsheet reviews the important basics of creating a powerful presentation—readability, organization, nice graphics and brevity. The tipsheet is easy to read and content-rich; new poster makers and veterans alike will benefit from the author's advice.

THE BIOLOGY PROJECT AT THE UNIVERSITY OF ARIZONA
http://www.biology.arizona.edu/
Continuing along the path to the rest of the Webby Award science nominees, our next stop is *The Biology Project* at the University of Arizona, an interactive resource for learning biology. Although it was designed for high school and college students, younger gifted students would find it fascinating and not too difficult. This site offers a 12-stop guided tour, if your browser can handle javascript. The areas of biology include the following: biochemistry, cell biology, chemicals and human health, developmental biology, human biology, immunology, mendelian genetics and molecular biology. The home page provides a more specific list of areas under each category and detailed instructions for students using the material in an introductory biology course. Teachers are encouraged to design lesson plans around the topics.

- continued on next page

Surfing the Net

continued

It would be difficult to choose a favorite from the list of science nominees. However, I can think of some stellar Web sites that should have been included. The following sites should be part of every science teacher's Internet toolbox:

KNOWLEDGE INTEGRATION ENVIRONMENT: AN INTERNET-BASED SCIENCE-EDUCATION RESEARCH PROJECT.
http://www.kie.berkeley.edu/KIE.html
KIE is a learning environment that uses the Internet to help middle and high school students develop an integrated understanding of science and a critical eye toward the complex resources found on the Web. It is the product of extensive research and classroom trials conducted through the National Science Foundation-funded KIE project, which explores innovative uses of the Internet and World Wide Web for K-12 science instruction.

AMAZING SPACE WEB-BASED ACTIVITIES: LESSONS FROM THE HUBBLE SPACE TELESCOPE
http://amazing-space
Younger students will enjoy this interactive science site. The Space Telescope Science Institute located in Baltimore, Maryland is responsible for the scientific operation of the Hubble Space Telescope under the direction of NASA. In 1996, 10 science teachers joined with Institute scientists and engineers to develop interactive lessons for the World Wide Web. The lessons presented by this site resulted from the collaboration. All lessons are interactive and include photographs taken with the Hubble Space Telescope. Additional graphics, videos and animation round out the activities, designed to enhance student understanding and interest. The suggested levels for individual lessons vary from elementary to high school. For classrooms without Web access, all lessons can be easily replicated by using the downloadable worksheets included in each lesson's Teacher Page. And, as a bonus, the Institute is looking for teachers to collaborate during summer, 1999.

Current activities include:
- Find out what light and color can tell you about stars in Star Light, Star Bright.
- Learn about the objects that make up the Solar System by collecting Solar System Trading Cards.
- Train to be a scientist by enrolling in the Hubble Deep Field Academy.
- Create a schedule for the Second Servicing Mission to upgrade the Hubble Space Telescope through the Astronaut Challenge.
- Brief history of telescopes from Galileo to the Hubble Space Telescope.

For the teacher, there is an overview of the lesson as well as references and additional information in the Teacher Page Index.

THE COMPUTER AS LEARNING PARTNER (CLP)
http://www.clp.berkeley.edu/CLP/General_Information/info.html
http://clp.berkeley.edu/CLP.html
The Computer as Learning Partner (CLP) project is an ongoing educational research effort at the School of Education-University of California at Berkeley, dedicated to informing and improving middle school science instruction. The CLP provides a one-semester integrated energy curriculum teaching the physical science topics of heat, light and sound to 8th graders. In the curriculum, which is entirely laboratory-based (as opposed to lecture- or textbook-based), the computer is used as a tool to collect and graph real-time data, perform simulations of experiments that consume too much time to do during a class period and track students' progress in moving through the sections of the lab. An Electronic Laboratory Notebook (E-Lab Book) and other computer tools have been developed to support students doing science. The concept of energy is taught at a macroscopic level, for example, a heat flow model rather than the molecular-kinetic theory taught in most traditional physics courses.

Supported by the National Science Foundation and affiliated with the Instructional Technology Program, the project involves a decade-long collaborative partnership of educational and cognitive researchers, natural scientists, middle school teachers and technology experts.

And that concludes our tour of Webby nominees in science and some additional sites that should have been. Hope to see you out on the Net. ❖

sberger@inet.ed.gov

The ideas expressed in this article are the author's and do not necessarily represent the views of the CEC or ERIC Clearinghouse on Disabilities and Gifted Education.

The URLS were accurate and working when last checked. The Internet is a dynamic place, and changes take place rapidly and without the server, the server might be temporarily down or the URL might have changed. Try again later or truncate the URL.

ParentSpace

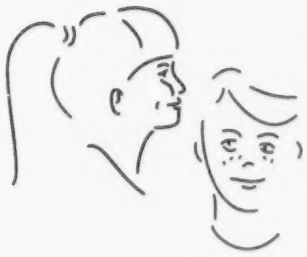
Laura Goodman

Eye of the Hurricane

Through the decades of my life I've fallen into so many of the gifted-girl traps that I could qualify to be a poster child. In elementary school, I sat on stores of knowledge so as not to draw attention to myself. In junior high, my great wish was to fit in and be a part of the In Crowd, and so I tried continually to accomplish that impossible thing. In high school math, I bottomed out, believing I was dumb when I couldn't do it and lucky when I could. I graduated from college with highest honors, yet I assumed that I must have always managed to get easy classes or somehow bamboozle my professors. As recently as my early 30s I was offered a dream job at an emerging think tank, which I turned down, fearful they'd discover I wasn't as smart and as deserving as they mistakenly thought I was. Even now, looking back from this enlightened, informed vantage point, there's still a sliver of me, an unaccountable vestige of belief, whispering that I wasn't really as smart or as capable as people thought, that to this day I am still fooling people and may be found out at any moment.

Where does this come from?

Research characterizes gifted girls and suggests that we're the way we are due to reasons historical, anthropological, sociological, psychological. Maybe add climatological. I don't doubt for a second that those are all valid factors contributing to the understanding of the often problematic plight of gifted girls, but I just keep thinking there's more going on here than what's packaged and explicable along gender lines.



This wondering about the "more" started a number of years ago, in the domestic climes of my own home and life—more specifically with our resident gifted child, a son. This is the youngster whose elementary-school principal once described him as "a force of nature," referring to him both intellectually and physically. He is, and has always been, very much the classic boy child, if by that we count his extremely rough-and-tumble approach to life and a decided early preference for aggressive play that for years saw him dressed in a succession of knight, super hero and warrior costumes to engage in constant battle against bad guys and evil doers. In conjunction with that there was his early fascination with any and all forms of weaponry and warfare, which, I must confess with relief, has since matured into an interest in specific wars and the strategy and technology of how they were fought. I'm guessing you know, or perhaps even live with, this model; it's the one people often remark on with comments such as "My, he's really all boy, isn't he?" And I'd have to agree that from the outside, it does seem so. A force of nature, indeed. A hurricane, I think.

- continued on next page

***Laura Goodman** is the editor of Understanding Our Gifted, a fiction writer and the homeschooling parent of a gifted child. She lives in Seattle, Washington.*

But from his earliest school days--which was when we became familiar with the world of the gifted and its literature, including all the information on gifted girls--certain behaviors kept cropping up that just didn't jibe with his "all boy-ness." Or, I should say with "an all-boy gifted child." From the beginning, he doubted himself and his obvious abilities; he often resisted participation in areas of his strengths, saying he just couldn't or, unaccountably, didn't want to; contrary to his academic performance and all feedback from home and school, he believed he wasn't smart; he sat on huge stores of knowledge so as not to draw attention to himself; at times his greatest wish/need seemed to be to fit in with the In Crowd. It all had such a familiar ring to it, and I kept dismissing it because those were "girl things." Gifted girl things. My territory.

Finally, I wised up and stepped outside the research lines to think about my child. I realized that my hurricane, as do they all, had an eye, a center entirely different from the ferocious winds and driving rains of the outer storm, a center not visible from the outside. My boy, I finally allowed myself to acknowledge, is much more like a gifted girl at his center. And stepping out even farther beyond that research-driven composite characterization, the simple truth is, my child is himself, one unique individual.

Where does this come from, I asked earlier, looking for an accounting, an explanation. Considering what is either the bigger picture, or a smaller one, of raising our individual kids on a day-to-day basis, what does it really matter where it comes from? We take whatever information is pertinent and practical and use it if we can, to the best of our ability. I believe I can best help my son in these years of his growing up by remembering and acting on that one basic tenet, that he is himself, an individual who is like no other. If, to do that it helps to recast the work of others in a different light or significantly reframe my own thinking, I do it. And by doing so, I don't intend to dismiss or diminish the good work others have done; rather, my intent is to enlarge upon what's known and make it even more useful. The way I see it is, when we're responsible for forces of nature, we need all the help we can get. ❖

In this scene from A.S. Byatt's ***Babel Tower****, the novel's protagonist, a scholar, teacher and mother, is portrayed getting to know another professional and mother. Through this discussion of themselves as children, these women evoke a vivid portrait of two undoubtedly gifted girls.*

"When I was a child I was terrified of other children. They seemed to me like ravening tigers or stupid trolls who wanted to tie you down and poke you. I wanted to be a real person, which meant grown-up."

"So did I," says Frederica. "You understand slowly that you understand things that you can't say or use until you're 'a human being.' I used to say to myself I felt I was a person inside a kind of silly mask and disguise, to whom people spoke in voices suitable for my silly face and silly clothes–even other children."

"And then you wonder–is everyone else in a silly mask, or is it only me?"

"And you don't even know the answer, but you suspect it's only you."

"And you wait to be a grown-up, or a real person, or a human being, you wait savagely in solitude, guarding your secrets and nursing your hopes, possibilities."

1996, pp. 300-301. New York:Random House.

Software Updates

Gregory C. Pattridge

Many years ago I developed criteria for the specific purpose of helping myself and others (individuals and schools) buy software titles that would not wind up unused and taking up space on the hard drive after the first month of use. For this column, recommendations will include titles that meet at least three out of five criteria. In addition to reviews (in this issue, SuperSolvers Mission T.H.I.N.K.!, ZAP! and The Lost Mind of Dr. Brain), each title will be keyed numerically, according to its having met specific criteria, listed below.

Criteria For Finding the Best CD-ROM Titles

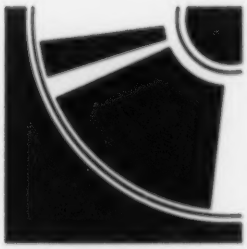
1. Wide Range of Levels
Software is expensive and you would like a title to be enjoyed for many years. I look for a minimum of a four-year range and hope that use can extend into adulthood. The perfect title is one that both you and your children can enjoy separately and together.

2. Teaches Curriculum Standards
Material that is challenging and teaches some aspect of curriculum is important. Titles should be equally usable at home and school. Many titles claim to be educational but only succeed at being a fast paced arcade game.

3. Develops Higher Level Thinking Skills
Software for the gifted child should be more complex and multifaceted and not merely request answers to knowledge-based questions. Expanding the already high-level thinking skills of the gifted youngster is an accomplishment too rarely found in today's software market.

4. Requires Outside Research/Decision Making
The student should be encouraged and motivated to do research away from the software program. This may be undertaken in the library, using textbooks or working on the internet.

5. Provides Extensive Feedback
Good teachers always provide continuous verbal reinforcement for learning. The computer program should also provide feedback to let students know they are on the right track.



***Gregory C. Pattridge** is a resource teacher in the Gifted and Talented Office of Jefferson County Schools, Colorado. He teaches nationally for Lesley College and University of Phoenix and is a frequent consultant for gifted and technology education.*

SuperSolver Mission T.H.I.N.K.!
(The Learning Company)
ages 7-12
Windows/Mac
Criteria:1,2,3,5

The SuperSolvers series continues with this enticing compilation of mazes and mind-boggling puzzles. Logic skills are emphasized as

- continued on next page

CDs

continued

the player matches wits with Morty Maxwell, the Master of Mischief, who has recently overtaken the Shady Glen Game Factory. Five different types of puzzles are presented in a fun format in which a player wins game pieces for successful solutions. When enough pieces are won, he or she can challenge Morty in a strategy game that includes five levels of difficulty. When a player wins all five, the Master of Mischief is defeated. There are more than 200 puzzles included in the five types: Plan-a-Path, Auto-Logic, In-VENN-Tory Alert, Viewpoints and Rush Order. A variety of visual-spatial and logic challenges await users as they maneuver through the maze. The puzzles get progressively more difficult and some students may find the beginning puzzles too easy. Patience is the key as puzzles towards the end are very difficult, even for older students. The format for this title is easy to use and will be a hit for kids who like strategy games. A brain definitely gets a workout while having fun with Mission T.H.I.N.K!

ZAP!
(Edmark Corporation)
ages 6-12
Windows/Mac
Criteria:1,2,3,4,5

The title gives a hint as to the content of this program: the science of lasers, light rays, sound waves and circuits. Hundreds of challenges await, followed by the opportunity to produce a one-of-a-kind sound and light show. Rather than being a conglomeration of unconnected activities, ZAP! introduces users to a performing group that's in trouble when lightning hits their control booth before a concert. The group enlists the player's help to make repairs to the lighting, audio and electrical systems. Components and controls are collected for everything that is fixed, and the player later uses all his or her collected parts to stage an original Electro-Laser-Sound show. The program includes three areas of hands-on learning: Laser Lab (interaction of mirrors and light), ElectroLoft (electricity concepts) and SoundWave Studio (properties of amplitude and frequency). My favorite area is the ElectroLoft where students can tinker endlessly until they get the concept. The program also extends beyond classroom walls by adding more complexity and components (insulators, capacitors, fuses, different wattages and more advanced circuits). Kids will have fun by experimenting with a never ending supply of light bulbs that shatter when experiments go awry. Another bonus with ZAP! is the inclusion of an interactive reference called the Sci-Clopedia, which includes 60 articles matched to the program's three areas and more than 200 science articles from the World Book Encyclopedia. An on-screen notebook allows students to write about their findings and new discoveries. ZAP! is a very realistic set of experiments on electricity, sound and light which will extend what is covered in the elementary science classroom.

The Lost Mind of Dr. Brain
(Sierra Online)
ages 10 and up
Windows/Mac
Criteria:1,2,3,5

Included in this CD are nine puzzles that challenge your use of logical thinking skills. The puzzles have different difficulty levels and are fun to solve. The premise has Dr. Brain accidentally transferring his brain into a laboratory rat. The brain is retrieved only through the solving of puzzles that prove to be quite addicting. The puzzles are loosely based on Howard Gardner's seven intelligences so that players will find puzzles that match their preferred intelligence. A nice extra for this program is a sign-in component that lets progress be saved over time. The only negative will be trying to get your child off the computer so that you can try it out too! ❖

Above & Beyond

Susan Winebrenner

Helping Gifted Girls Through Discussion Groups

At the end of a recent workshop, a young woman approached me to say that she'd finally understood her own academic experience as a gifted girl. Now in her late 20's and currently teaching middle school, she related how she'd struggled with the perceived dilemma of choosing between being smart and "fitting in" with her age peers.

She beamed as she described how a high school teacher had helped her and other girls plagued with similar problems by forming an after-school discussion group and provided the opportunity to talk about issues which had gone unnamed and undiscussed. These meetings validated her own confusion and misery and facilitated her ability to make more informed choices for the future. She grew excited as we explored the possibility of her forming a similar discussion group for gifted girls in the school in which she teaches.

In another city, I learned of a discussion group comprised of struggling learners and gifted underachievers; apparently, they were all impressed to learn that they shared similar attitudes, worries and self-talk patterns. For example, they discovered that both groups tended to credit others or luck for their successes and to blame themselves for their failures. Their self-talk was full of self-condemnation and wishful thinking.

A high percentage of gifted females are academic underachievers, especially from middle school on. We have to keep in mind that if their grades came from work that reflected little or no effort, underachievement — through the fear of not being perfect — may also be a factor. What many gifted girls lack, it seems, is the ability to "fit in socially" through prowess in athletics. Such prowess for boys who are also gifted in academic areas leads to much more tolerance of their academic ability. In other words, if you're a "jock," your peers won't mind your giftedness in other areas. Far too many girls can find no path to self-validation except by pretending they are less capable than they actually are.

When caring counselors and teachers plan to facilitate discussion groups, they often leave out gifted students in their pools of candidates of who will be served in those groups. The social/emotional needs of gifted kids frequently escape the attention of educators who have so much potential to help them. Self-esteem is in part dependent upon their perception that they are accepted and appreciated for the individuals they are. Discussion groups are one way to facilitate strong self-esteem for gifted youngsters, enabling them to accept that high intelligence is "normal" for them and that being true to themselves is not as scary as it may seem.

When I taught gifted students in a pullout program, I quickly realized that these children needed to spend significant time periods discussing the interpersonal issues that typically beset them in heterogeneous classes. These needs are not likely to be addressed in

- continued on next page

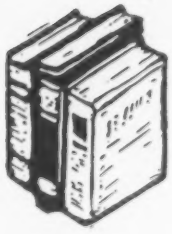
***Susan Winebrenner**, from Michigan, presents workshops on a variety of topics, but her first love is teaching gifted children. She is the author of Teaching Gifted Kids in the Regular Classroom and Teaching Gifted Kids with Learning Disabilities in the Regular Classroom.*

The Bookshelf

Suzy Schettler

*In response to reader requests, **Understanding Our Gifted** is happy to welcome another regular column to its pages. Suzy Schettler, educator and mother of two gifted sons, will offer reading suggestions and book reviews for children of all ages and wide-ranging tastes.*

Astrid Lindgren



The wonderful thing about children's books is that there are so many fabulous stories out there waiting to be read and treasured. For many gifted kids, however, books and stories go beyond being just something to read (although with the voracious appetites of many young readers, that's important too) by providing characters for children to relate to on a more personal level. Often our children believe there may be no others like themselves around, leaving them feeling alone in this world. Fictional characters can allow, or even prompt, some children to put into words some of the emotions they may be feeling. Many of these books are worthy of being cherished and reread many times throughout the years, becoming old friends in the process. Some will certainly find their way into our children's hearts where they'll become special enough to share with their own children one day.

***Suzy Schettler**, from Ontario, Canada, is the homeschooling mom of two gifted sons.*

In the realm of gifted girls, numerous wonderful books and characters come to mind. Who could help but begin with Astrid Lindgren's irrepressible 9-year-old Pippilotta Delicatessa Windowshade Mackrelmint Efraim's Daughter Longstocking, otherwise known by most of us as Pippi Longstocking. This youngster's unusual way of looking at the world makes delightful reading for everyone—girls, boys and adults alike!

- continued on next page

Above & Beyond
continued

other forums. For example, in one middle school, classroom teachers asked me to work on "attitude adjustment" for the gifted kids who daily came to my class from a three-period language arts block. When I asked for more details, they described kids who were arrogant, impatient and, sometimes, unkind to classmates. My response was, "As soon as I observe this behavior, I'll try to deal with it." Of course, once the kids came together in an atmosphere of appropriately paced, challenging curriculum, their frustrations disappeared and those unpleasant behaviors were rarely visible.

Parents and teachers of gifted girls need to spend time and effort to provide a forum for the girls' concerns, especially those that interfere with their conflicting emotions about whether to demonstrate their exceptional abilities or to hide them. In my experience, it matters less that you don't have training in counseling than that you recognize the helping power of regular discussions with gifted youngsters. They are so grateful for the opportunity to "tell it like it is" and get reinforcement from peers who understand and commiserate, that the first discussion will certainly lead to many more. ❖

Bookshelf

continued

With her pet monkey Mr. Nilsson, her suitcase full of gold, her sharp wits and remarkable physical strength, Pippi makes the ordinary extraordinary and takes readers on a series of wondrous adventures along with her friends Tommy and Annika. She challenges the World's Strongest Man at the circus, thwarts burglars and saves children from a burning building. When she decides to see what the school day is all about, the teacher asks if she can tell her what 7 and 5 are. Pippi, astonished and dismayed, looks at her and says, "Well, if you don't know that yourself, you needn't think I'm going to tell you." She is, as one of the characters in the story puts it, "a remarkable girl!" Astrid Lindgren's ageless classic is enormous fun to read alone or aloud as a family. The original, *Pipi Longstocking*, is followed by the sequels *Pippi on Board* and *Pippi in the South Seas*, along with the more recent *Pippi Longstocking's After-Christmas Party*. Pippi has also recently been made into a television series and an animated movie.

If you have a child who insists on a boy character, however, consider Astrid Lindgren's Emil books. Another rollicking good read-aloud, *Emil in the Soup Tureen* was a huge favorite at our house and had my two boys gasping with laughter at his endless scrapes and his time spent in the woodshed. There is also *Emil and the Piggy Beast*. Some of these books are currently out of print and may be difficult to find except in some libraries, but if you happen upon them at a local garage sale or thrift shop make sure to grab them.

Another of Lindgren's books, not quite as well known, is *Ronia the Robber's Daughter*. Unlike the very humorous Pippi books, Ronia has a more serious tone and looks at the challenges of growing up, becoming independent and coming to terms with the realities of life. It is beautifully written in a timeless way, reading almost like poetry at some points.

The book begins on the night of Ronia's birth, with a thunderstorm raging through the forest. For Matt and his band of robbers, on this night of wildness there is only joy and wonder. "That child understands just about everything already — you can see that," says Matt as he gazes at his newborn daughter. For Ronia, growing up in Matt's castle and the surrounding forest, there is much to learn about life and love, friendship and enemies. When Ronia meets Birk, the son of her father's sworn enemy, she discovers that sometimes life is more complicated than one would like and that it isn t always easy to please everyone, including oneself.

This moving novel has real depth and is filled to the brim with emotions of every kind. It's a rich adventure story with characters that inspired my two to run to the backyard to create their own cave and whittle bows and arrows from broken tree branches. It's a fantasy filled with vicious hell-harpies and dangerous gray dwarfs, goblin creatures and the temptations of the Unearthly Ones. Moments of joy will fill the reader with happiness, while sadder ones will bring a lump to the throat, along with the need for a box of tissues.

When Ronia and Birk become secret best friends, brother and sister in spirit, they realize that the best and the worst of life is all intertwined with the people you care about. They have to hide their friendship and live in fear of its discovery, until the worst happens and they have some hard decisions to make about loyalty.

The mix of questions this story explores is thought-provoking—what's right and what's wrong, and what is the harm that foolish pride can cause? In the end, Ronia and Birk end up teaching the adults around them that the answers to such questions are rarely easy and clear, and that sometimes helping each other will preserve the very best that life has to offer. The back of this book pegs the reading age at 8-12; it will likely resonate most strongly with children on the brink of becoming young adults and finding their own truths in the world. However, this book has as many layers as an onion and could be read and enjoyed by readers of all ages, from sensitive and compassionate young readers to adults, like myself, who found the writing to be moving and magical. ❖

Leading Journal Since 1988

Understanding Our Gifted Back Issues

Volume 1
- ❒ 1-1 Social and Emotional Needs **
- ❒ 1-2 Early Development **
- ❒ 1-3 Highly Gifted
- ❒ 1-4 Learning Styles **
- ❒ 1-5 Parenting the Gifted **
- ❒ 1-6 Moral Development **

Volume 2
- ❒ 2-1 Underachievement **
- ❒ 2-2 Gifted Girls **
- ❒ 2-3 Adolescents
- ❒ 2-4 Thinking Skills
- ❒ 2-5 International Perspectives
- ❒ 2-6 Learning Problems

Volume 3
- ❒ 3-1 Personality Types **
- ❒ 3-2 Program Administration **
- ❒ 3-3 Creativity **
- ❒ 3-4 Counseling
- ❒ 3-5 Arts and the Gifted
- ❒ 3-6 Cultural Diversity

Volume 4
- ❒ 4-1 Student Research
- ❒ 4-2 Technology and Education
- ❒ 4-3 Empowering Parents
- ❒ 4-4 Assessing the Gifted
- ❒ 4-5 Collaborative Efforts
- ❒ 4-6 Family Relationships

Volume 5
- ❒ 5-1 Homeschooling
- ❒ 5-2 Promising Practices
- ❒ 5-3 Parent Advocacy
- ❒ 5-5 Young Gifted Child
- ❒ 5-5A Being Out of Sync
- ❒ 5-6 Philosophy of Giftedness

Volume 6
- ❒ 6-1 Valuing Parents
- ❒ 6-2 Excellence Revisited
- ❒ 6-3 Networking
- ❒ 6-4 Talent Searches
- ❒ 6-5 Attention Deficit Disorders
- ❒ 6-6 Mainstreaming

Volume 7
- ❒ 7-1 Spectrum of Giftedness
- ❒ 7-2 Update On Technology
- ❒ 7-3 Recognizing Gifted Young Children
- ❒ 7-4 Secondary Gifted Students
- ❒ 7-5 Exploring Creativity
- ❒ 7-6 Mutual Education

Volume 8
- ❒ 8-1 Multicultural Issues
- ❒ 8-2 Gifted Students - Upper Elem./Middle
- ❒ 8-3 The Visual Learner
- ❒ 8-4 Parenting & Teaching Gifted Children
- ❒ 8-5 Global Connections for Gifted Students
- ❒ 8-6 Affective Needs

Now Available: Volume 9 -10
($12 each plus s/h)

Volume 9
- ❒ 9-1 Perfectionism
- ❒ 9-2 Gifted Ed. & the Law
- ❒ 9-3 Inside Giftedness
- ❒ 9-4 Learning Differences

Volume 10
- ❒ 10-1 Educational Options
- ❒ 10-2 Intelligence Revisited
- ❒ 10-3 Parenting & Advocacy
- ❒ 10-4 Curriculum

Volume 11
- ❒ 11-1 The Total Child

(Please add Shipping/ Handling as indicated on order form.)
Note: Out of Print Issues available as black & white photocopies.

To Order, Use Form Below
www.openspacecomm.com

Order One Back Issue (Volume 1-8) Get another one FREE — - only $8.00 for 2 issues

*U.S. only * Indicate issue selection above * out of print journals not included*

Order Form

Understanding Our Gifted Subscription
$35 Individual. $45 yr. Institutions. (Published Quarterly) $_____
International $47 U.S. funds. International Institutions $57. $_____
Back issues $8 each. **(vol 9 -11 $12)** $_____
International $10 U.S. funds **(vol 9 -11 $20)** $_____

Professional Development Series
__ ***Affective Education*** $14.25 $_____
__ ***Parent Education*** $14.25 $_____
__ ***Teens With Talent*** $15.45 $_____
__ ***Smarter Kids*** $15.45 $_____
__ Tape 1 ***(The Gifted Child As Visual Learner)*** $10.00 $_____
__ Tape 2 ***(Social / Emotional & ADHD Needs)*** $10.00 $_____
__ Tape 3 (***Giftedness & the Visual Learner***) $12.00 $_____
Shipping/Handling $_____

For books, tapes, back issues - Add 10% ($2.50 minimum)
International Orders, (subscriptions, back issues, books, tapes) add 20% ($7.50 minimum).

Total Enclosed U.S. Funds $_____

Name:_____

Institution:_____

Address:_____

City/State/Zip:_____

VISA/MC Card _____

Exp. Date:_____

Make checks payable to:
OPEN SPACE COMMUNICATIONS, INC.,
1900 Folsom-Suite 108, Boulder, CO 80302

1-800-494-6178 / (303) 444-7020 / FAX (303) 545-6505 / e-mail: dorothy@openspacecomm.com

The More You Purchase --- The More You Save

Perfect for Parent Groups, Schools, Organizations and University Classes

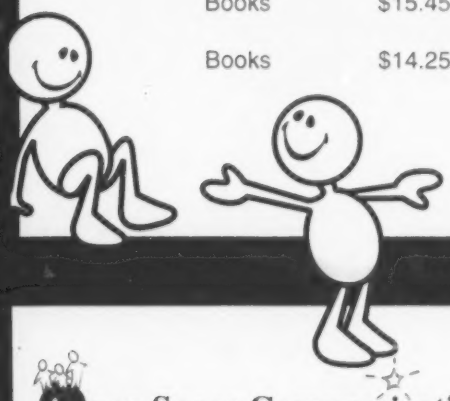
Our publications are written for parents, teachers and counselors of Gifted / Talented Children

Purchase in quantity and save!

	regular price	2-9	10-19	20+
Tapes	$10.00	$ 8.00	$ 7.00	$ 5.00
Tapes	$12.00	$10.00	$ 8.00	$ 6.00
Books	$15.45	$13.00	$12.00	$11.00
Books	$14.25	$11.50	$10.50	$ 9.50

Note: See journal insert for more details - *add shipping/handling*

To Place Your Order Call 1-800-494-6178



Open Space Communications, Inc.

1900 Folsom, Suite 108
Boulder, CO 80302

Change Service Requested

BULK RATE
U.S. Postage
PAID
Boulder, CO
Permit No. 94

UNDERSTANDING OUR GIFTED®

Dedicated to helping gifted children reach their full potential

INSIDE

Asynchrony

Spring, 1999 Volume 11, Issue 3

parents

e

ents parents

talented

BEST COPY AVAILABLE

Publisher
Dorothy Knopper

Editor
Laura Goodman

Design/Desktop Publishing
Ann Alexander Leggett

Editorial Assistance
Joan Franklin Smutny

UNDERSTANDING OUR GIFTED

Open Space Communications, Inc.

Editorial Advisory Board

Alexinia Baldwin
Professor
University of Connecticut

Sandra Berger
ERIC Clearinghouse-Disabilities/Gifted Ed.
Council for Exceptional Children, VA

Ernesto Bernal
Professor of Educational Psychology
University of Texas - Pan American

George Betts
Professor of Special Education
Gifted and Talented
University of Northern Colorado

Barbara Clark
Professor
California State University

LeoNora Cohen
Associate Professor
Oregon State University

James Delisle
Professor
Co-Director, SENG
Kent State University, OH

John Feldhusen
Professor
Purdue University, IN

Carol Fertig
Peak Educational Resources
Cherry Creek Schools, CO

Maurice D. Fisher
Publisher
Gifted Education Press, VA

Jerry Flack
President's Teaching Scholar
University of Colorado,
Colorado Springs

Gloria Frender
Educational Consultant
Brain Power, Inc., CO

Marvin Gold
Publisher, Tapes 'n Books for
Gifted Education, AL

Pamela Hildebrand
Special Education Consultant
Melbourne, Australia

Pat Hollingsworth
University School for Gifted Children
University of Tulsa, OK

Holly Hultgren
Principal
Boulder Valley Schools, CO

Frances A. Karnes
Professor, Special Education
Director, Center for Gifted Studies
University of Southern Mississippi

Elinor Katz
Dean of Education
University of Denver

Bertie Kingore
Shelton Professor & Elementary/Secondary Ed.
Hardin-Simmons University, TX

C. June Maker
Associate Professor
University of Arizona

Joel McIntosh
Publisher
Prufrock Press, TX

Connie McLendon
Executive Director
Texas Association for Gifted/Talented

Garnet Millar
Provincial Coordinator
Guidance & Counseling
Alberta Education, Canada

Sheri Nowak
Assistant Professor
Emporia State University, KS

Rick Olenchak
Professor & Psychologist
Center for Gifted Education and Psychology
University of Houston, TX

Jeanette P. Parker
Director, Center for Gifted Ed.
University of Southwestern Louisiana,
Lafayette

Gina Ginsberg Riggs
Executive Director
Gifted Child Society/PING, NJ

Ann Robinson
Professor
University of Arkansas at Little Rock

Mark Runco
California State University Fullerton

Ellie Schatz
Executive Director
Wisconsin Center for Academically Talented Youth

Beverly Shaklee
Associate Professor
Kent State University, OH

Dorothy Sisk
Director, Conn Chair for Gifted Education
Lamar University, TX

Joan Franklin Smutny
Director, Center for Gifted
National-Louis University, IL

Stuart A. Tonemah
President
American Indian Research & Development, OK

E. Paul Torrance
Georgia Studies of Creative Behavior

Joyce VanTassel-Baska
Professor
College of William & Mary, VA

Sally Walker
Executive Director
Illinois Association for Gifted Children

Marilyn Wallace
Academic Director
Creative Children's Academy, IL

Susan Winebrenner
Education Consulting Service, MI

Understanding Our Gifted (ISSN 1040-1350) is published quarterly by **Open Space Communications, Inc.**, P.O. Box 18268, Boulder, CO 80308-8268. Subscriptions are $35 for 1 year; Institutions $45. International subscriptions are $47 U.S. funds; International Institutions $57. Back issues available. Third class postage paid at Boulder, CO. For subscription address changes, send mailing label along with new address to *Understanding Our Gifted*, 1900 Folsom, Suite 108, Boulder, CO 80302, eight weeks before moving. Material in *Understanding Our Gifted* can be copied for personal use only. No material can be reproduced for publication without permission. Appropriate credit must be given. Copyright 1999, **Open Space Communications, Inc.** All rights reserved.
(303)444-7020/FAX (303)545-6505/800-494-6178. E-mail: *dorothy@openspacecomm.com* *www.openspacecomm.com*

BEST COPY AVAILABLE

RECEIVED
JUN 2 5 1999

Contents

Focus: Asynchrony

2- Between the Lines

3- The Balance Uneasy: Asychronous Development in Gifted Children
Younghee M. Kim & LeoNora M. Cohen

8- Asynchrony Personified
Laura Goodman

12- Asynchrony and the Gifted
Jane Piirto

16- Giftedness: The Asynchrony Syndrome
Michael Rios

18- Carousel....Does One Size Ever Fit All? A Case for Individualizing Curricula for Gifted and Talented Students
F. Richard Olenchak

24- Notes from Home: When in Doubt
Allegra Sanchez

27- Surfing the Net
Sandra Berger

30- Bookshelf: Those Devilish Numbers
Suzy Schettler

32- Above & Beyond: The Dyssynchrony of Being Different
Susan Winebrenner

77

Between the Lines

Asynchrony.....dyssynchrony.....uneven development....whatever the label, the gifted children we teach and parent have "considerable discrepancy between their very high intellectual functioning and their equally common difficulties over more practical matters" (Terrassier, J.C., 1985, Dyssynchrony: Uneven Development. In J. Freeman [Ed.], *The Psychology of Gifted Children*, p. 265. Wiley.).

Amy, age 5, presents a classic example of asynchrony. She was adult-like in her ability to plan the details of family outings, ranging from local errands to more complex vacations. But one day her mother "lost her patience with the excessive whining of her tired child during an extended holiday shopping trip. 'Why don't you act your age?' shouted the exasperated mom. Amy responded tearfully, 'I am'" (Knopper, D., 1997. *Parent Education: Parents as Partners*, p. 25. Open Space Communications.).

Walter E. Gibson empathized with these kids when he titled his book: *Masterful Minds in Mini Cages* (1974, Gryphus.). Today we talk about the 10 year old who designs Web sites by day and sleeps with his well worn "Teddy" at night. We try to understand brains which are years and grades ahead of chronological levels, bodies that may lag behind average age development, emotional and physical levels far behind accelerated thinking processes. Not only are such erratic, yet simultaneous, rates of development extremely frustrating for gifted children, but they result in unrealistic expectations from peers and adults. Sadly, the message to such youngsters is: "If you're so smart, why do you act so dumb?"

A gifted child lives a daily frustration of peaks and valleys, much more intense than the stress of "normal" growing up. Monumental highs occur when these children are challenged academically, free to pursue intense interests and respected for who they are by adults and peers. Rock-bottom lows happen when they are boxed into conformity, realize how different they are from peers (while yearning for acceptance), are required to do school work—over and over—which they mastered years before, laughed at for precocious vocabulary and have elaborate plans in their heads for projects that age-appropriate muscle development and immaturity prevent them from carrying out.

In this issue, our writers have combined anecdotes about real children and the effects of asynchronous development with common-sense analysis of psychological and educational research. Understanding the very real syndrome of asynchronicity in gifted young people will help us, as their mentors and guides, to help them through the difficult challenge of growing up gifted. Maybe, as Sue Winebrenner optimistically suggests, society can view developmental differences as "normal," eventually doing away with the unfairness of the "geeks and nerds syndrome." ❖

D.K.

FOCUS

The Balance Uneasy: Asynchronous Development in Gifted Children

Younghee M. Kim
LeoNora M. Cohen

When Max was just 5 years old, his dad went on a three-week trip to China. He gave Max a large map of China with little flags to pin in the cities on the itinerary, to help his little son deal with his absence. Max became fascinated with maps. His mother got him a large road map of the United States and a U.S.A. puzzle as well. Max spent hours studying his maps and playing with his puzzle. He was fascinated with the nested relationships of cities, capitals, counties and states. His mother felt proud that Max seemed to grasp class inclusion, a classifying task of much older children because he did not confuse city-county-state relationships.

During that three-week period, Max's mother drove from their home in Pennsylvania to visit friends in New York. Crossing the state line, she pointed out the "Welcome to New York" sign to her little boy. Max stared out the window in bewilderment. "But Mom, it *isn't* pink!" he declared. Max was experiencing cognitive asynchrony. He understood the size classification (at least on two-dimensional maps), a task of older children, but his thinking that states were supposed to be the color of the map was typical of a 5 year old.

Gifted children exhibit a variety of characteristics that make them act and react differently to the physical and social environment. We will explain some of these differences which make them asynchronous, both within themselves and with the rest of the world, using Piaget's equilibration theory.

Asynchrony: What does it mean?

In the history of gifted education in the western world, various terms have been used in describing the different developmental aspects of gifted children. Terrassier (1985) described various terms used in the literature including heterochrony (a term used by Zazzo, 1969, and applied to differences between mentally retarded and typically-developing children regarding different speeds of psychological development), dysharmony (referring to pre-psychotic structure and implying severe damage to the child's personality), dischrony (a term coined by Gibello, 1976, concerned with time sequence and mental disturbance and lack of adaptation) or his own term, dyssynchrony. Dyssynchrony includes both "internal and external unevenness in development and their consequences" (Terrassier, 1985, p. 266). Silverman (1993) used the term "asynchrony" to focus on uneven development that "incorporates the emotional dimension, emphasizing the interrelationship of cognitive complexity and emotional intensity" (p. 5). Apparently, varying connotations of these terms affect the understanding of different aspects of development of gifted children. We choose to use Silverman's term "asynchrony" to understand the differences, imbalances, unevenness, inconsistencies or discrepancies among gifted children in adapting both socially and

- continued on next page

Younghee M. Kim *is an Assistant Professor in the School of Education at Oregon State University. Her specialties are early childhood education, early intervention, special education and children with special needs, including the gifted.*

LeoNora M. Cohen*, an Associate Professor in the School of Education at Oregon State University, has worked in the field of gifted education for over 30 years as teacher, parent, coordinator of programs, university professor and researcher. Her interests are in conceptual and theoretical issues, children's interests, thinking and metacognition, coping strategies and practical applications.*

Balance

continued

internally to a challenging world, particularly emphasizing the cognitive and emotional aspects.

Asynchrony in gifted children can be viewed as having two aspects: internal and external (Terrassier, 1985; Tolan, 1998). Within each of these aspects there may be different variations. For example, among the internal variations, gifted children's intellectual skills are advanced, whereas their emotional, social or physical development may be typical or appropriate for their age, causing unevenness in their development (Silverman, 1997). Another internal variation is that "gifted children's advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm" (Tolan, 1998, p. 172). A third internal variation is that they may perceive and think about the world differently. Finally, relating to both internal and external asynchrony, gifted children may have heightened moral development and become stressed when those around them do not live up to their standards (Cohen & Frydenberg, 1996).

Externally, gifted children may be out of sync with peers, family, siblings, friends and teachers. For example, in understanding and solving problems, these children may notice unusual aspects or solve them very rapidly and accurately which can threaten less able thinkers or appear to be strange. To others, these children may look withdrawn or spaced-out when they are intensely occupied on, say, a challenging mental geometry problem. They may also be extremely sensitive about other people's reactions or comments on their behaviors. These invisible differences can have external impacts on their peers or teachers who may find it difficult to understand such children, thus impairing easy or smooth relationships.

Our analysis of research on Piaget's theory and giftedness indicates that both internal and external asynchrony among intellectually gifted children may be related to differences in construction and organization of their mental and, we believe, emotional structures. This is a process Piaget (1977) described as equilibration. Although contrary to what might be anticipated, intellectually gifted children do not enter a higher stage of development more than a year or two ahead of their typically developing peers, probably because of neurological maturation. However, it appears that there is a different movement within Piaget's stages for intellectually gifted children (Cohen & Kim, in press). Let us briefly describe Piaget's equilibration theory to explain these differences.

Asynchrony and Piaget's Equilibration Theory

Piaget's equilibration theory states that when individuals encounter something new or foreign to their structures for understanding, a disequilibrium is created that requires restoring the balance. We can think of this disequilibrium as a type of asynchrony, as the imbalance throws the child out of sync within a cognitive system. Equilibration involves two aspects: adaptation to novel aspects and events in the environment and internal organization, the mental structures that act on and organize incoming information. The equilibration process involves assimilating a new element by bringing it into the intellectual structure and simultaneously accommodating or modifying the learning structure to deal with the novel aspects. For example, we may be familiar with gifted education but have not studied Piaget's theory. To fully comprehend the relationship between the two requires bringing Piaget's theory into our gifted education structure (assimilation), then changing the gifted education structure to relate Piaget's theory to it, thereby creating a new and enriched understanding (accommodation) (Cohen & Kim, in press).

In typical development, equilibration involves a slow building up of principles or rules from schemes (the simplest level of structural organization), linked into subsystems, then further coordinated into hierarchical, structured totalities marked by differentiation and integration. This last and highest level of organization usually represents stage transitions (Piaget, 1977). To understand how gifted children may experience the imbalance or asynchrony in their learning, a physical analogy might be helpful, one that focuses on teaching the gifted.

Take a small object in the left hand; let's say, a comb. This hand represents the adaptation aspect. Now think of the right hand as being a scheme for teaching gifted children. This is the structure or organization aspect. The objective is to think

- continued on next page

Balance

continued

about how the object could be used for learning experiences for gifted children. The object now becomes a conflict, gap or puzzlement, causing a state of disequilibrium or imbalance to the gifted scheme. Hold both hands as fists in front of the body and feel the imbalance. The object has to fit into a scheme that has not dealt with this particular novelty before. The fingers of the right hand reach over towards the object. The object must be assimilated (brought in to the structure) by modifying that structure (the right hand now takes the object, accommodating the shape of the hand to hold it). Now the comb could be used to study concepts of beauty over the ages, adapted for "defuzzing" a sweater or used as a pattern maker in finger painting. An equilibrium has been temporarily restored but new questions arise, such as what other randomly selected objects could be used to teach a lesson? In typically developing children, this imbalance would probably be short-lived and the questions would likely be few. However, among many gifted and creative children, such a simple event could trigger great asynchrony as well as a huge list of questions. Consider the following.

Differences in Equilibration in the Gifted Child

Roberts' (1981) longitudinal study of conservation among gifted and average-developing 5-7-year-old children was the only such study on equilibration and the gifted. Children of average IQ were found to "work forward a domain at a time, consolidating as they go" (Roberts, p. 223), over the areas of conservation. Piaget found that typically developing children conserve the following domains, in order: number, discontinuous quantity (e.g., corn granules), continuous quantity (water), substance (clay), length, weight and volume perspective, over the age period between about 6 or 7 and 11 or 12. Rules or principles are derived from and applied to the specific domain and are not rapidly generalized. This is essentially a vertical movement. Their schemes appear to be more resistant to coordination and integration into total systems.

However, after the initial interactions which are harbingers of stage advancement (typically, conservation of number), intellectually gifted children strike off into new domains, showing growth across domains but not generalizing as much within a domain on the most difficult problems. They have a general principle but cannot consistently apply it. This is more a horizontal movement. For example, unlike his typically developing peers, a very bright 5 year old, Jamal, quickly agrees that when one of the two equivalent balls of clay is flattened into a pancake, there is the same amount of clay in both the ball and the pancake "because they are the same." One ball is rolled into a snake. Again, Jamal applies his rule reasoning and recognizes that the quantity of clay is the same. However, if one ball is made into seven little bears, he says, "There

Gifted children exhibit a variety of characteristics that make them act and react differently to the physical and social environment.

is more clay in the bears 'cause there are so many!" Jamal has lost the conservation because perception has overcome the reason. But he is likely sensing some puzzlement (this is often visible, with a wrinkled brow or an admission of not feeling sure) and may waffle about his answer if asked the next day or week.

At the same time that gifted children deal with the specific contents of number and the various domains of quantity, they begin to develop rules or principles for conservation: the operations of identity (if nothing is added or taken away, it is the same), reciprocity or compensation (water, when poured in a high glass, gets taller but thinner) and reversibility or negation (rolling the clay snake back into a ball). For example, Roberts (1981) cited the case of gifted 6-year-old Anna who told her, "I don't care what stuff you show me. As long as you don't take anything away or add anything, it's going to be the same!" It appears that the intellectually gifted child is a pattern seeker, and begins to try to construct the general principles that apply to all domains, following feedback from the first few encounters.

But even this bright 6 year old gave only an identity explanation,

- continued on next page

Balance

continued

not all the other justifications (reciprocity and reversibility), to Roberts. Although the child grasped one of the underlying operations for conservation, her rule construction was incomplete. At the same time, she had constructed a principle to apply across domains, quite different from merely a more rapid coordination from one domain to the next. With her "rule," Anna successfully completed one or more items across seven of the eight domains of conservation. At best, typically-developing 6 year olds would conserve number and perhaps a few items in the domain of discontinuous quantity.

Prior to specific experiences with those areas normally conserved over a four- to six-year period, the gifted child generalizes the broad application of the principle and thus can anticipate the unknown. But this difference in equilibration of gifted children also leads to greater possibilities for disequilibrium. Certainly, the totality is in no way completely constructed, nor all the rules for conservation developed. Gifted children make mental leaps across domains but must fill in the equilibrations to support their principles or rules, or they must change their rules or construct new ones to fit the stimuli assimilated. The partial movement to a deeper level leads to an ability to anticipate — to see a glimpse of possibilities before having fully developed structures to deal with them. Such children are therefore more equilibrated; for example, Max constructing a size-relationship rule for classifying cities, counties and states.

However, this partial accommodation at the level of the total system (in this case conservations across most domains at the simplest levels) makes for greater depths of disequilibrium, as the principles they have constructed may not explain all the data. They grasp the general pattern, but it is unstable. This increases the possibility for more equilibrations and further enrichment of the schemes, subsystems and totalities. Max's hungry interest in maps and his grasp of many map concepts led to more questions and disequilibrium when faced with real-life state lines.

Because the child generalizes, he or she can anticipate possibilities (as did 6-year-old Anna), and there is then greater equilibrium and stability to the world. But because the rule does not always fit or can be overcome with perceptual miscues (so many little bears!), there is also greater disequilibrium. The child is paradoxically both more and less equilibrated. This means the child anticipates possibilities but is more disequilibrated when the rule does not fit — all the gaps and conflict that trigger questions and quests. Even within the cognitive system, this is asynchronous development, an unevenness of development that allows the intellectually gifted child to grasp simple examples well beyond the domains attained in typical development but not the more complex ones, leading to instability of thinking. In summary, intellectually gifted children construct their knowing structures somewhat differently from their more typically developing peers.

Applying Equilibration Theory to Systems Other than the Cognitive

Seeking of balance is a universal biological pattern in which one system influences other systems. These systems — *universal knowledge* (what all children construct without formal instruction, or the Piagetian notions of operations); *non-universal knowledge* (specific domain knowledge constructed through interactions with both adults and a field of endeavor [Feldman, 1997]); *affect*; *perception* and the *physical, intuitive and spiritual* — interact and evolve. Sometimes they interact and evolve together, sometimes pulling another system along, sometimes with great gaps that cause serious disturbance (Cohen, 1985; Cohen & Frydenberg, 1996). In short, this is internal asynchrony, and in Piagetian terms, disequilibrium among and between systems. We believe that the same equilibration pattern Roberts (1981) found in conservation among intellectually gifted children is likely to occur in other intellectual domains and in other systems, whereby the child is both more and less equilibrated.

Because the cognitive system can influence other systems such as emotional development, the need to find balance when events are painful or frightening requires adapting by modifying the feeling structures or perhaps even using cognitive structures to help. For example, when gifted 3-year-old Ben became aware and fearful of dangers in the world such as earthquakes and mudslides, he worked out his worries by learning as much as he could about volcanoes (Cohen, 1989). Structural change (organization)

- continued on next page

Balance

continued

is also required to deal with painful events. This same little boy used "sending out alert" stories to help himself deal with his fear. The stories evolved over about a year and a half, from the adult helping the child retrieve a ball in the street to ones in which Ben was a hero in rescuing others from an exploding volcano. Both his cognitive and emotional structures were modified as he learned more about volcanoes and felt a growing sense of control.

Because Ben could work out fears about the world being dangerous through learning everything he could about volcanoes (as well as having very supportive parenting), he was more able to consider options. But because he was so aware of the dangers before he felt big enough to deal with them, his fear was heightened and he was less equilibrated. This paradox helps in understanding perfectionism, sensitivity, intensity and the need for control in the gifted child. The same pattern — both greater balance and greater imbalance — occurs as the child grasps principles, but only partially, rather than coordinating particulars, one at a time, which is characteristic of typically developing children.

- Perfectionism: The 6 year old anticipates in her mind how a cyclamen flower should look when she begins to draw, but it comes out looking to her like a gob of bubble gum. Perceptual, physical and emotional systems are involved. She rips up the paper in many pieces and shouts, "I can't draw!" She is both better equilibrated in the sense of anticipating possibilities, but less equilibrated, in the conflict created when she attempts the drawing.
- Sensitivity: A 9-year-old girl weeps in distress when she sees some boys chasing pigeons in the park. She has constructed a rule about kindness to living things and cannot bear their insensitivity. Her heightened sensitivity resulting from her emotional and cognitive rule construction conflicts with the event in the environment. She cannot comprehend how others can be cruel. Her sense of morality is violated. Internal asynchrony is evident.
- Intensity: A young boy cannot bear to turn off his computer game, even though he has not eaten for hours and is being called to dinner. He has mastered so much of it and is intent on completing it. The disequilibrium of not having the game completed compels him to forget hunger (physical system) and social interaction (system of affect) in his quest to master the game.
- Control: When faced with a new situation in which she feels no control, a 4th grader has to be lifted into the school bus by her mother to go on a class camp-out. Able to anticipate the possibilities of homesickness and fear of getting lost, the child experiences disequilibrium since she has not been on an outing to this campsite. The unknown is a gnawing fear. Yet once she is in the woods and becomes familiar with her surroundings, she takes a leadership role in helping classmates find animal habitats in the creek.

Conclusion

The difference in construction and organization of the knowing structures in mentally gifted children leads to asynchrony even with the cognitive system. Asynchrony can be negative, especially if the imbalances are too great or the contextual supports are absent to help the child deal with the difficulties. But asynchrony can also be a positive dynamism when conceptualized in terms of Piaget's disequilibrium. Only when the child experiences the gaps, conflicts or imbalances (in short, disequilibrium), can she or he grow cognitively or emotionally. And we suggest that asynchrony in one system (say, the emotional or perceptual) can trigger growth in another. It is a balance uneasy. ❖

References

Cohen, L.M. (1985). *Towards a theory for gifted education.* Dissertation, Temple University, Philadelphia. University Microfilms International, DA 8509318.

Cohen, L.M. (1989). Understanding the interests and themes of the very young gifted child. *Gifted Child Today,* 32(6), 1-10.

Cohen, L.M. & Frydenberg, E. (1996). *Coping for capable kids.* (pp.1-362). Waco, TX: Prufrock Press.

Cohen, L.M. & Kim, Y.M. (in press). Piaget's equilibration theory and the young gifted child: A balancing act. *Roeper Review.* (Parts of the above article were taken from this reference.)

Feldman, D.H. (1997). *The development of potential for excellence: Universal or unique?* Plenary address, National Association for Gifted Children Convention, Little Rock, (Nov. 8.).

Piaget, J. (1977). *The development of thought: Equilibration of cognitive structures.* New York: Viking Press.

Piaget, J. (1978). *Success and understanding.* Cambridge, MA: Harvard University Press.

Roberts, C.H. (1981). *Equilibration and intelligence: Individual variation in cognitive development as a function of CA, MA, and IQ.* (Unpublished doctoral dissertation). Bryn Mawr.

Silverman, L.K. (1993). The gifted individual. In L.K. Silverman (Ed.), *Counseling the gifted and talented,* (pp. 3-28). Denver: Love Publishing.

Silverman L.K. (1997). Family counseling with the gifted. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (pp. 382-397). Boston: Allyn & Bacon.

Tarrassier, J.C. (1985). Dyssynchrony: Uneven development. In J. Freeman (Ed.), *The psychology of gifted children* (pp. 265-274). Chicester, England: Wiley.

Tolan, S.S. (1998). Beginning brilliance. In J. F. Smutny (Ed.), *The young gifted child: Potential and promise, an anthology* (pp. 165-181). Cresskill, NJ: Hampton Press.

BEST COPY AVAILABLE

Focus

Asynchrony Personified

Laura Goodman

Asynchrony. As parents and professionals who live or work with gifted children, what does the word mean to us, personally? We know the book definition, first set down by the Columbus Group (1992), suggests that asynchrony equates to giftedness. They stated:

Giftedness is asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity (p. 14).

This easily makes sense to those who are themselves gifted and/or are raising gifted children with such "qualitative differences." A real, visceral understanding of asynchrony and its repercussions can only help those who work or associate with the gifted.

For many, it helps to have asynchrony named and specified, but often, intuitively, we already know this about ourselves or our children. An 8 year old gives us an example of this self-awareness, as evidenced in a candid comment made while she and her mother looked over the dedication to a novel. It read, "To all children who feel different." "Well," the little girl said, "this book is for me, because I sure feel different." Asynchrony can be understood from the inside-out or outside-in, with or without having heard its formal definition. One woman, the mother of a good friend of a very gifted boy named Thoby, may have unknowingly captured for many the essence of a gifted child's asynchrony. Her son was overheard saying to his friend, "My mother says you're a 40-year-old man in a 9 year old's body." There followed a pause while Thoby pondered, then replied, unplussed, "Yup, sounds about right."

What's your definition? Yours may be personified, have a name and live in your house or may sit in the third row to the left in your classroom. And for the world in general, the best definition may well be one articulated through personal example, one that must be acted out to be understood. Let a group of parents or teachers of gifted children gather and ask them to define or describe asynchrony in their everyday lives, and the ensuing discussion is guaranteed to abound with lively and colorful examples. I asked a number of such groups of parents and teachers to share their anecdotal definitions of the word, and what follows are some of those accounts of real-life gifted children. All names have been changed to protect the privacy of the asynchronous.

As I compiled transcripts from the various groups, I found that most of the anecdotes people told came from children's early years. This isn't surprising, since with younger children, the differences are often more dramatic. The anecdotes also sorted themselves into rough thematic categories: early language acquisition and comprehension, the social and emotional, knowledge and comprehension, tastes and preferences, true child behavior and bathroom issues. Interestingly, that last area is where many of the storytellers started. We will, too.

- continued on next page

***Laura Goodman** is the editor of Understanding Our Gifted, a fiction writer and the homeschooling parent of a gifted child. She lives in Seattle, Washington.*

Personified

continued

At age 3 5/6, Chad was reading well and spending much time on the computer. He was absolutely uninterested in potty training. He'd sit at the computer, playing adult adventure games like "Myst" and "Return to Zork" and ten minutes later be sitting on his little potty and drinking a bottle. I was desperate to get him out of diapers, so I offered him a bribe.

I explained to him that diapers were expensive and that each one cost 25 cents. He thought about this while sucking on his bottle, then said, "Well, I use about four a day, so if you pay me a dollar, I'll use the potty today."

I agreed to this. At the end of the day, I paid him his dollar and asked him what he was going to buy with it. He looked up at me, grinning, and said, "Diapers."

Another boy, another day.

My son Nate was 4 1/2 years old. We'd been through everything we could think of to get him trained — targets in the potty, bribes, special treats, etc. We were at our wits' end. Here was a kid who taught himself to read at 2 years of age but would ***not*** *use the toilet. One night I had just had it with washing wet pants, so I went into his room and found him reading a Chinese novel. As calmly as I could, I told him I was tired of the whole routine and that it had to end. He looked up at me from his book and said, "Oh, okay, Mom." And that was the end of the problem!*

Through the toddler years in one household of three children, two 2 year olds handled their diapering needs in the same way. Both let Mom know when they were ready for a dry diaper, then would go to the bedroom for a cloth one, fold it in thirds, lay it on the diaper cover and then lie down to be changed. "And in line with that 2-year-old behavior," Mom said, "sometimes I had to wait for a bit while that diaper got folded to the child's satisfaction." Another mom told of her son, who'd been experimenting with "big boy pants" for several months, announcing that on his third birthday he'd make the switch and never wear diapers again. That's how it was, she reported, and after the big day there was never a single accident, either.

The language-acquisition and comprehension stories are sure to have heads nodding in recognition or shaking in amazement.

As Kira acquired words, she'd learn them, repeat them clearly and then never say them again. At 13 months, she pointed to the barrette in my hair, asking in her way what it was. I took it out, handed it to her and pronounced "barrette" a few times. She repeated it precisely, then refused to say the word again. This was something she did regularly. At 2 she still refused to talk and the clinic scheduled her for an evaluation, but it was three months before there was an opening. We canceled the appointment about half-way through the waiting period because she suddenly started speaking in complete, coherent sentences.

Thoby's father told of his 9-month-old's method of learning nouns. The baby would say what he saw or was thinking and then repeat it continuously ("incessantly" was Dad's word) until an adult said the word, apparently confirming its pronunciation. According to Dad, Thoby seldom needed to "work" a word a second time. Comprehension abilities in the very, very young are just as astounding.

We had an interesting experience when Jake was seven months old. I was on the telephone and he was crawling around the house. I noticed him playing in my purse but didn't watch to see what he took out. A few minutes later, I picked him up and we headed out to the bank. When we got there, my ATM card was missing and I panicked before remembering the purse incident.

We went home and I started to look everywhere for the card because I thought it was stupid to ask my 7 month old what he did with it. Finally I broke down and asked him if he'd seen Mommy's bank card. He immediately crawled over to a wall vent and said "bank." I looked inside the vent and there was my card. I had to unscrew the vent cover to retrieve my card. Jake watched and then said "money?" with a puzzled look on his face. I laughed for days, and no one believed that story.

Another day, another comprehending baby.

Once, when Sarah was about 7 months, I asked her to go into my room and get something. A friend was over, and I remember how incensed she was that I would think a baby could decipher and follow directions like that. It was funny when Sarah came crawling back into the room a moment later with the thing I'd asked for in her mouth.

Numerous parents and teachers related stories of gifted children's asynchronous social interactions, many of which were told wistfully or tinged with left-over sadness. Jake's mother said that she never believed her child was different until she started having nieces and nephews and spending more time with other children. They discovered that play dates and play groups didn't work for them and they "became total loners. It was sort of a sad time actually," she said. Another parent told of her

- continued on next page

Personified

continued

daughter, now a teenager, whose early social adaptation was in complete opposition to her advanced abilities. "She never cared to be around other kids and never sought them out until much later in her life."

T. J. had trouble getting along with the neighborhood kids, especially at a younger age. His self-control was not at all advanced, though the games he liked to play were. I remember him getting mad enough to scratch a playmate for not following the rules of a board game and cheating, when both boys were 5. I also remember him getting so annoyed by other kids that he'd misbehave to get a play session stopped. As he got older, he really got a lot more playful and childlike, more able to do the usual things with other children. By 8, he'd really learned how to get goofy with the other kids.

Many quite similar stories were told, describing children who were "on different wave lengths" and "completely out of step" with other children and so found it next to impossible to connect in the standard ways of childhood — games, sharing of toys, pretend play, etc. Too few, it seems, were able to finally find a way to "get goofy" with their age peers.

Sometimes gifted children's tastes and preferences bespeak how out of sync they are either from other, more typical children or from other developmental dimensions of themselves. For instance, one mother told of her 1-year-old daughter's great love for opera. Another described the contents of her 9-year-old son's night stand: Archie comics, Animorph books, a copy of *Hamlet* and a high school physics textbook. Another chimed in with the story of her son who'd hated preschool and reminded her of it a year later, commenting mournfully that "preschool is a horrible thing to do to little children." When she asked him why, he said in a heavy voice, full of disgust, "Think of the coloring." The sophisticated food preferences of young children also came up, detailed by several parents, and suggests yet another, even more esoteric, frontier of asynchrony. There was the little girl who could identify and distinguish from taste between the many different types of salmon; preschool twins who loved tomato aspic, spicy Mexican fare and preferred goat cheese to any other kind of cheese; the 5-year-old boy who requested his sixth birthday party be held at the local sushi bar.

But it is perhaps in areas of knowledge (what they have learned) and comprehension (what they understand) and what they do with it all that asynchrony really becomes conspicuous in these children. These stories were legion.

Last Halloween while trick or treating, 7-year-old Tony and his dad and two younger brothers approached a house with a bubbling cauldron. Dad commented that the cauldron must have dry ice in it, and Tony countered that in order to make a bubbling sound, it must have more than just dry ice since dry ice "sublimates," which, he went on to explain, means that it goes directly from a solid state to a gas. Tony then skipped expectantly to the door to receive his share of candy.

A teacher told the story of a 10-year-old student, already expert in computer programming, who created an original program for ordering merchandise for a local grocery chain owned by his uncle. In the process, he had to contact a major software company and, when he explained what he was doing, was actually offered a job. He responded, "But I'm only in the 5th grade, and I don't think my mom will give me permission!"

The opera-loving 1 year old received her first babydoll and named her "Gobbi" after her then favorite opera singer, Tito Gobbi.

Many of the stories, though, are made of much more serious stuff.

When T.J. was 3, he began thinking a lot about death. He realized that since we, his parents, were much older, we would probably die before him. But as a little boy, he couldn't imagine living independently and was very scared about the idea of someday being separated from us. He was in a state of panic about this for what seemed like months. He lay awake many nights and would call me in with questions about what happens when we die, leading to many more questions about spiritual matters. Never have I wished more than then that I had a simple faith with clear answers to these kinds of questions, ones that could reassure a scared little boy.

My middle son had a very sunny disposition as a toddler, and though he figured out about death, it didn't seem to bother him. One day he was singing a little song and recited the names of each family member, from oldest to youngest. He asked me if I knew what his song was, and when I told him I didn't, he said, "That's the order we're going to die in." Not expecting anything like that, I was chilled.

I remember one night when Sarah called to me because she couldn't sleep. It was raining really hard, and I thought she was probably afraid of that. But it turns out she was worrying about what the homeless people were doing in the rain, and if they were cold. She was 5 at the time, so I figured all 5 year olds thought about stuff like that.

- continued on next page

Personified

continued

Just like most 7 year olds, Dimitri loves playing his new Nintendo, but the other night after I read him a bedtime story he said to me, "Mom, I have a question I've been wondering about and it has to do with video games and sort of relates to why we exist." Okay, I said, ask away. It went something like this: "When you play video games, you want to get to the next level or get the next item, and then the next, till you beat the game. You have fun, but beyond that what's the point?" He shrugged and went on. "There really isn't any point except to have fun while you play. It sort of makes me think about humans and why we're here....We live our lives and get stuff, but what's the point except to make ourselves happy while we're here, like picking up stuff in the game to get to the next level. Then eventually we die — that's it, the end of the game."

Kenji, who is 6, will discuss atomic bombs, the use of lasers, and military strategy. He contemplates the politics behind past wars. Yet, deep down, he's just a 6 year old who's afraid the bad guys may get him (or Mommy and Daddy). While we don't allow him to watch the news or read the newspaper, he absorbs information by osmosis. We were discussing the recent "military action" against Iraq. Putting it together with other current events in his mind, Kenji asked, "Why can't the people of Iraq just impeach Saddam Hussein, like we did to Clinton?" Of course, I was relieved to shift the focus of our discussions away from bombing, toward a discussion of democracy. But I have to constantly remind myself that he does not have the "mileage" on him to fully grasp the consequences of world events, and to a small child, the big picture can be so scary.

And yet, these deep thinkers are still little children and constantly behave as such. Consider one little girl's dinnertime conversation about exponents followed by her refusal to go upstairs alone because she was afraid of the dark. Then there were the two little girls in an elementary un-graded program for the gifted who struck up a working relationship: the 4 year old agreed to help the 8 year old with pre-algebra if the older one would tie the younger one's shoes. A final snapshot of the opera-lover reflects, according to her mother, how she's very much a 10 year old and *not* a short adult.

Julie's homework assignment was to list 15 idioms or idiomatic expressions. She listed 80 and would have kept going, but she had to get to sleep. The next evening, Julie told us that in class each student had to illustrate the literal and idiomatic meaning of one of their idioms. The one Julie chose? "Cut the cheese." Yes, she is a 10 year old!

Many who don't have first-hand, daily knowledge of the workings of asynchrony might find it surprising to learn how many of these little children, boys and girls alike, now grown into their preteen years and still pondering the sophisticated whys and hows of the universe and human nature, still fall asleep each night with a stuffed bunny tucked under their chins. Whether a 10 year old is exercising her adult intellect to consider causes of world wars, her teenage preference for rap music, her preschooler-level emotions over a disappointment, this gifted child is always being just exactly who and what she is, no more and no less, just like any other child. Sometimes, she's even a dead-on 10 year old. But because of gifted children's inherent asynchrony, theirs is often and in many ways a qualitatively different life from their more typical peers; it's more complex, oftentimes more difficult for them and the people around them.

Let a group of parents or teachers of gifted children gather and ask them to define or describe asynchrony in their everyday lives, and the ensuing discussion is guaranteed to abound with lively and colorful examples.

I hope hearing these "definitions," the many stories told in so many voices, has been both touching and edifying for readers. For those of us who live with asynchrony as a real fact on the most personal of levels, telling and reading the stories can be reassuring, strengthening. For those who might be just beginning to characterize what it means to be gifted, I hope they're helpful in bringing to life, in personifying, a single, crucial word from the gifted lexicon. ❖

References

Morelock, M. J. (1992). Giftedness: The view from within. *Understanding Our Gifted*, 4(3), 1, 11-15.

FOCUS

Asynchrony and the Gifted

Jane Piirto

Maria is 4 years old and has been waiting and waiting to go to school. At home, she plays school all the time. She's the teacher, and her dolls are the students. At her day-care center, she's the only one who can read and the one who always leads the other children in games. The teachers there say the other children really look up to Maria, except when she tries to make them do things they really don't want to do, such as count by twos. The people at the center also repeatedly tell Maria's mother that her daughter is very, very bright. She heard the same thing when Maria went for her kindergarten screening, and as a result the district recommended that Maria be tested by their psychologist. On the Stanford-Binet Intelligence Scale: Fourth Edition test, Maria's score was 145, putting her into the 99th percentile. That would qualify her in a few years for the district's program for academically talented students, a program that doesn't start until 4th grade. Along with the enrichment activities offered in 1st, 2nd and 3rd grades, Maria's mother hopes her daughter's profound love of learning and great enthusiasm will carry her in school until the gifted program begins.

The big day finally comes, and Maria is going to begin school. The just-turned 5 year old is ready! She has on her new dress and her new shoes. Her mother braids her hair and fastens it with new barrettes. When Maria gets to school, she's anxious for her mother to leave, yet still she feels shy with so many new faces around her. Some of the children are actually crying. Maria looks around the room and sees a shelf of books, and since she always reads when she doesn't know what else to do, she goes over to the shelf, finds a book and waits for things to calm down. After all the parents have gone and the children have quieted, the teacher sits on a small chair with the students in a semicircle around her and says, "My name is Mrs. Miller, boys and girls. Welcome to kindergarten. In kindergarten, we will learn our letters and our numbers so that we can learn to read in 1st grade."

"I can read already!" Maria says, jumping up.

"That's nice," says Mrs. Miller. "When we want to talk, first we must stand and then wait until Mrs. Miller calls on us."

"But I can read already!" Maria's voice becomes petulant, and tears start in the corners of her eyes.

"That's nice," says Mrs. Miller, "but in school, we'll learn how to read right. Please sit down now."

Maria is chagrined. She feels shame and embarrassment. She does sit down and, in doing so, takes a first step to underachievement. By the time she's been socialized into the kindergarten milieu,

- continued on next page

***Jane Piirto** is Trustees' Professor and Director of Talent Development Education at Ashland University in Ohio. A poet and novelist, her new book is My Teeming Brain: Creativity and Creative Writers.*

Asynchrony

continued

Maria will have learned to keep quiet about her abilities and even to suppress the fact that she can read. In 1st grade, she'll comply with the reading tasks in order to fit in. By 2nd grade, even though all her work will be right, she will have learned that she doesn't have to put forth any effort in school in order to be the best student. By 3rd grade, she will have learned that boredom and laziness are the hallmarks of school work. By 4th grade, when she finally is put into the pull-out program for academically talented students, she will resent it.

In teaching university students, I've used this vignette (Piirto, 1999) to illustrate how asynchrony and intellectual overexcitability, as set down in the work of Dabrowski (1972) and Piechowski (1977), can manifest in a gifted life, even at an early age. First appearing in the 1960s but cited most often in the last few decades in the field of gifted and talented education, Dabrowki's theory on emotional development is particularly suitable for an understanding of giftedness. He believed that people develop through a series of stages brought on by positive maladjustment. His theory, termed Theory of Positive Disintegration (TPD), emphasizes the role of suffering and inner conflict in advancing development.

Dabrowski (1972; Dabrowski and Piechowski, 1977) was interested in describing human personality as it actually expresses itself. He observed a "multileveledness" in human behavioral phenomena, from egocentric to altruistic, from nonreflective to intensely self-aware, from developmental (not capable of psychological growth) to highly developed. The theory emphasizes affective and emotional development, not just cognitive development, and it explains developmental transformation in a sequence of five levels. These levels are useful in considering adult moral and emotional giftedness.

In addition, Dabrowski proposed five types of "overexcitabilities" or intensities, predictive of developmental potential:

(1) psychomotor
(2) sensual
(3) intellectual
(4) imaginational
(5) emotional

In considering human differences and the gifted, someone once said that most people live with the radio on but some others are hooked up to satellite dishes. These are their amplified overexcitabilities.

According to Piechowski (1979), Dabrowski's translator and coresearcher and a counseling psychologist, *emotional overexcitability* might show itself as intense feeling; inhibition; fear; anxiety; depressive moods; memory of emotions; attachments to places, people and animals; empathy; self-judgment; and feelings of inadequacy and inferiority. *Imaginational overexcitability* might manifest itself in inventiveness, vivid visualization, dream recall, use of metaphor, an interest in fairy tales and magical tales, poetry, drama and having imaginary playmates. *Intellectual overexcitability* might express itself as curiosity, thirst for knowledge and analysis, a preoccupation with logic, the ability to intuitively integrate and synthesize seemingly unlike and disparate ideas, as well as the capacity for sustained intellectual effort. *Sensual overexcitability* can present as a love of physical comfort, in tasting, seeing, smelling, touching, hearing, in overeating, sexual indulgence, buying sprees and sartorial pleasures. *Psychomotor overexcitability* might manifest itself in a surplus of physical energy; rapid speech; acting out; compulsive talking; and/or nervous habits such as nailbiting, workaholism and needing always to be moving.

Creative people are often in possession of these overexcitabilities. Environmental factors predisposing people to be creative are:

- encouragement in childhood
- training or modeling of creativity in childhood
- having access to formal training in adolescence or early adulthood
- experiencing stress or loss in childhood

This latter, the experience of stress and loss, leads to a sense of insecurity experienced extremely and intensely. Nixon (1996) said, "Creative persons may seek to compensate for their losses and fulfill their needs by engaging in projects which have as their result an idea, a service or a product that is valued by society" (p. 90).

Dabrowski (Piechowski, 1975) said he witnessed throughout his

- continued on next page

Asynchrony

continued

life, "geniuses of mankind and saints" who showed psychological disturbances but who "create the highest and the most lasting values." These disturbances came because of "great creative and developmental richness" in trying to reach the highest levels of development. Overexcitabilities are "enhanced and intensified mental activity distinguished by characteristic forms of expression which are above common and average" (p. X).

Dabrowski and Piechowski studied creative producers and found they possessed high overexcitabilities in the emotional, intellectual and imaginational areas. Since Dabrowski's death, Piechowski (1979) has gone on to further research the link between Dabrowski's theory and the gifted and talented. These overexcitabilities seem to be genetic equipment ("original equipment, OE's," as Piechowski often jokes) and they are useful in considering the differences that some children have from other children. Again, much of the Dabrowski theorizing compares children with high IQs with others and, thus, like most of the theories in the field, it is an explication of what it means to have a high IQ.

Silverman (1994), discussing the nature of giftedness, said, "we have lost the entire moral dimension of giftedness" (p. 113). She related the definition of giftedness as asynchrony, and asynchrony as manifested in high IQ as found through IQ testing. "The higher the child's IQ, the greater the asynchrony" (p. 114). She also equated asynchrony with moral understanding: "Asynchrony, intensity, and moral sensitivity are inherent in the experience of giftedness, whether or not a child demonstrates specific talents in a given domain" (p. 114). Morelock first explained asynchrony in the January-February, 1992 issue of *Understanding Our Gifted*.

The Dabrowski theory identifies five levels of emotional development, each mediated by intensities, or overexcitabilities. Dabrowski (1972) wrote of the existence of an intense "inner psychic milieu" in "a sensitive, capable, introverted child," stating that he or she is often pushed to the margins by schooling and by childhood and early adult experiences of rejection, misunderstanding and devaluing by the rest of the world. Such individuals may come to resemble people with mental illness, but they are not mentally ill as they undergo a multi-level transformation from the primitive towards the transcendent. Only a very few reach the highest levels, IV and V, which Piechowski described as being "characterized by deliberate self-directed inner growth guided by the highest ideals." A gifted person's path is hierarchical: through a process of "positive disintegration," that is, a breaking down of lower functions in order to reorganize at a higher level, the individual restructures the psyche. Piechowski said, "if there is no restructuring, there is no development" (1975, p. X).

In Dabrowski theory and among adherents to the New Age spiritual movement that has arisen out of the humanistic psychology movement, one's life is the creative product, and a person labors to become a vibrant, alive and transcendent being as the ultimate in creativity. At 5 years of age, our kindergarten Maria demonstrates asynchrony, as coined by the Columbus Group (Morelock, 1992), or dyssynchrony, as Terassier (1985) called it. Whatever it is called, Maria shows, through her reactions and behavior, a qualitative difference in her personality from those of her kindergarten peers. Depending on many influencing factors, her gifts, OEs and her asynchronous development will most assuredly affect or carry her in any number of directions as she lives, creating her life. Regardless of what she ultimately does and whom she becomes as an adult, whether she achieves personally and/or professionally, whether she ends up happy and fulfilled or the opposite, she will still be gifted and no doubt asynchronous in any number of ways, with those same OEs in play and having variously influenced her path in getting there.

Tolan (1994) noted that whoever gifted adults may be, they are people with unusual minds: "Gifted children do not disappear when they graduate from high school or finish college or graduate degrees. They become gifted adults. If they enter adulthood blind to their unusual mental capabilities, they may go through their lives fragmented, frustrated, unfulfilled and alienated from their innermost beings" (p. 137). Giftedness is within, and not without.

Thus, Dabrowski's work fits into the realms of both humanistic and developmental psychology. An individual grows from level to level through conflict, and one's propensity for growth is termed "developmental potential." These levels are not fixed in time; that

- *continued on next page*

Asynchrony

continued

is, they do not occur at certain ages, but they may occur simultaneously as a person is in a conflict of growth and development.

Piechowski (1977) said, "There are periods of great intensity and disequilibrium (psychoneuroses, depression, creative process), and there are periods of equilibrium...but the more development is advanced...the less possible it is for it to slacken off and cease to carry on the process of intrapsychic transformation" (p. X). The transition occurs and the higher level dominates.

At Level I, *Primary Integration*, the motivation to act is based on main primitive drives. At Level II, *Unilevel Disintegration*, one experiences multiple points of view and conforms to external standards. At this level, if one's actions appear to be nonconforming, such nonconformism is not based on principles the person himself has developed, but rather upon group pressure, for at Level II, he/she follows styles, doctrines and superiors with little evaluation. At Level III, *Unilevel Disintegration*, one is increasingly influenced by inner beliefs as he/she experiences internal conflict between what ought to be and what is. This level is marked by existential despair and much self-reflection. At Level IV, *Organized Mulitlevel Disintegration* one emerges from this conflict, beginnng to behave with a view towards the perfecting of the self and of service to others. This level is similar to Maslow's final stage of self actualization. However, the Dabrowski theory includes one more level, Level V, *Secondary Integration*, beyond Maslow's self-actualization. At Level V, selflessness and a sense of universal unity prevail.

In the Dabrowski theory of development, which is particularly suitable for an understanding of giftedness, the first two levels are characterized primarily by sensual and psychomotor overexcitabilities and the need to fulfill bodily and sensual needs. The higher three levels require emotional, imaginational and intellectual overexcitability. The emotional and intellectual are mediated by the imaginational, which explains why many eminent creative people are able to reach these levels.

Dabrowski and Piechowski (1977) spoke to lifelong development, of life as a process and not a series of stages. Higher forms of development are achieved once a person has moved beyond primitive drives, selfishness, feelings of inferiority toward others, to transcendence, self-determination and continued creativity and clarity of intelligence.

The process of living a life can be viewed as ultimate creativity. The notion that creativity is not momentary but lifelong, that it has a universal purpose and evolves developmentally seem to be the most logical definition of the creative process. For the gifted, continued and lifelong asynchrony describes part of it, with multileveledness as one progresses through adulthood describing another. According to Piechowski (1979), Dabrowski viewed the intensities of the intellectually and artistically gifted as a higher form of adjustment on a continuum of levels of adjustment. "To varying degrees, these five dimensions give talent its power" (Piirto, 1999, p. 366). The potential cumulative power of a gifted life, then, resides not in the development of a single dimension, the cognitive, but within the interworkings of an individual's multiple dimensions and, as such, seems nearly limitless. ❖

References

Dabrowski, K. (1972). *Psychoneurosis is not an illness*. London: Gryf.

Dabrowski, K. & Piechowski, M. M. (1977). *Theory of levels of emotional development*. (2 vols.). Oceanside, NY: Dabor.

Morelock, M. J. (1992). Giftedness: The view from within. *Understanding Our Gifted*, 4 (3), 1,-11-15.

Nixon, L. (1996). A comparative study of Charles Darwin and Therese of Lisieux. *Advanced Development*, 7, 81-100.

Piechowski, M. M. (1975). A theoretical and empirical approach to the study of development. *Genetic Psychology Monographs*, 92, 231-297.

Piechowski, M. M. (1979). Developmental potential. In N. Colangelo & R. Zaffer (Eds.), *New voices in counseling the gifted* (pp. 25-57). Dubuque, Iowa: Kendall-Hunt.

Piirto, J. (1999). *Talented children and adults: Their development and education*. Columbus, OH: Prentice Hall.

Terassier, J. C. (1985). Dyssynchrony: Uneven development. In J. Freeman (Ed.), *The psychology of gifted children* (pp. 265-274). Chichester, England: John Wiley.

Tolan, S.S. (1994). *Discovering the ex-gifted child*. Roeper Review, 17(2), 134-137.

Silverman, L.K. (1994). The moral sensitivity of gifted children and the evolution of society. *Roeper Review*, 17(2), 110-115.

FOCUS

Giftedness: The Asynchrony Syndrome

Michael Rios

I never use the term "gifted" anymore.

I have long felt that the use of the term has caused many of the problems we experience when trying to get needed resources for our children or have a sympathetic conversation with other parents. Instead, I describe my profoundly gifted son as having "ADS — Asynchronous Development Syndrome" (usually preceded by "severe"). I find people then ask about it, and I start by explaining his least developed areas (such as handwriting, compositional ability or organizational skills), some of which may be below his chronological grade level. I mention how having long ago mastered the rest of the material at the grade level of his weak areas leaves him with endless hours in class without encountering a single new piece of information. I stress that he cannot be in any one grade without complex accommodations. I then talk about the social disadvantages and difficulties, that the kids he can play sports with are never the kids he can do homework with or play strategy games with, so it limits and fragments his interpersonal experiences.

The vast majority of the time, this has the desired effect. As soon as I use the word "syndrome," people put on a sympathetic mindset. As I describe the situation, the difficulties become quite clear before the extent of the giftedness is shown. I find many people, with whom the subject happens to come up at one time or another, regularly initiating conversations about him, asking me with genuinely heartfelt concern about how he's doing.

I was forcibly confronted with these issues when my son was 9. We knew virtually nothing about giftedness at the time, nor had any clue about the extent of his abilities. His attitude and general personality had deteriorated over time, to the point that he had gone into a civil-disobedience mode with the school. He would go to class but refuse to participate in any way, even to the point of sitting on top of a desk, facing away from the teacher, and reading — and heaven help the teacher who tried to interfere! His behavior in or out of school was sullen, hostile, angry, at times even violent; now, he succinctly describes his condition at the time as "insane."

We had tried dozens of different approaches without success and finally took him for psychological testing. He maxed the IQ test, with his academic knowledge and ability ranging from two years behind grade level in writing to that of a college senior in science — a discrepancy of 4.5 standard deviations.

That discrepancy, which is a definition of asynchrony (Silverman, 1994), is precisely what defines an identifiable Learning Disability

***Michael Rios** is an independent computer consultant. He has three children with varying degrees of asynchrony.*

- continued on next page

Syndrome

continued

(LD) for federally mandated services. Many parents have unnecessarily avoided this route, perhaps out of fear of stigma or of loss of control of the process. The guidelines for LDs require accommodations in all areas that will help the child have a successful school experience, not just in the identified area of weakness. By having our son identified as LD, we have been able to get the needed accommodations. We cited a Connecticut study (Baum, 1988) which showed that LDs in gifted kids improve the most by ignoring them; this gave us almost complete flexibility in his Individualized Educational Plan (IEP). Generally, an IEP cannot be put into place without the signatures of the parents, so the ultimate control remained in our hands.

When I have suggested this approach, some parents have had a hard time identifying in their own children the handicaps that virtually all these children have. The issue, though, is not about how talented our kids are, but about the difficulties they face daily from their asynchrony: the child who can discern music far better than her fingers can play or who can visualize better than she can draw.

Asynchrony emphasizes the real issue, and usually the greater the giftedness, the greater the asynchrony (Silverman, 1994). We have kids who may need calculus before they're completely dry at night. We have kids who may have the professional skills of an adult but the emotional maturity of an 8 year old. We have kids who can produce and direct an award winning video but cannot write four sentences describing it. We have kids who can handle college level science courses but don't have the organizational ability to get their lab report from their backpack into the teacher's hands.

Perhaps one of the most extreme asynchronous areas for many exceptionally gifted children is organizational ability. Too often, the child is considered lazy, unmotivated, oppositional or worse, when the truth is that the child is incapable of staying organized. Organization requires certain types of neural development, just as do walking and writing; no amount of training or motivation will help until those developments occur. For many asynchronous children, without accommodations, this disability can cripple their attempts to function in an accelerated learning environment. And the effect of having a neurological deficiency treated as a moral or personal failing can have a devastating effect on a child.

If our children were uniformly advanced, they would have far fewer problems; it is precisely the asynchrony that creates their special needs. Often, when an accommodation is needed for a gifted child, the issue is raised that other children should receive the same "benefit." This can result in gifted classes being watered down to accommodate non-gifted children or in the resource being taken away entirely. But kids who aren't asynchronous don't need accommodations to do well in a regular classroom. Our "insane" 9 year old is now a popular 12 year old, with a variety of accommodations and supports which allow him to have a patchwork of courses reflecting his varied abilities. He can handle advanced calculus, does well on tests, but he can't get the homework done consistently; with the IEP to back him up, the teacher has accommodated this, and our son is able to stay challenged but not overwhelmed.

As parents, we're not asking for special privileges for our children; we are asking for what they need to function in an appropriate environment. Without that, there is too often a loss of interest in school, depression, even suicide. The emphasis on asynchrony as a syndrome, even characterized as a pathology, can help others realize that we are only concerned parents helping our children cope with their greatest challenges. ❖

References

Baum, S. (1988). An enrichment program for gifted learning disabled students. *Gifted Child Quarterly*, 32, 226-230.

Silverman, L. K., (1994). Asynchrony. *Understanding Our Gifted*, 6(2), p.15.

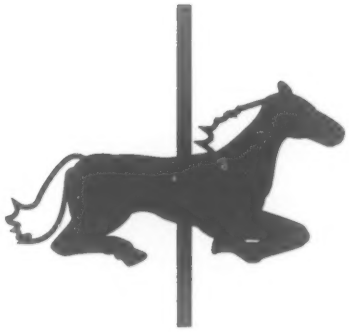
Carousel

F. Richard Olenchak

Does One Size Ever Fit All? A Case for Individualizing Curricula for Gifted and Talented Students

There is a fairly significant body of literature pertaining to asynchrony—uneven rates of cognitive, emotional, social, and physiological development—among gifted individuals. Gottfried et al. (1994), Morelock (1992), Piirto (1990), Rimm (1995), Silverman (1993, 1995) and numerous other researchers have researched and discussed asynchrony. Focusing almost exclusively on the development of self, most have examined asynchrony from an intrinsic perspective. Even Terrassier's (1985) more comprehensive notion of "dyssynchrony," in which asynchrony was partitioned between internal and external aspects, only cursorily addressed concerns arising when gifted students' needs are out of synchrony with school curricula.

The majority of educators, and certainly the public-at-large, view school curricula as encompassing a set of preordained facets. The quest for acquisition of a list of basic skills for every learner has changed little in the 15 years since Barth (1986) criticized educators for operating via "list logic" in educational and curricular development. Barth felt that schools typically operate using predetermined criteria for improvement and seldom look beyond at the individual students and teachers involved. In the years since Barth's assessment, an examination of four current texts on curriculum and instruction in gifted education revealed that innumerable pages are dedicated toward identification of critical concepts and constructs in each content discipline. In comparison, the same texts barely mention strategies for identifying and serving individual educational needs among gifted students.



***F. Richard Olenchak** works with graduate students in gifted education and psychology, school-age gifted students, their parents and teachers at the Center for Gifted Education and Psychology at University of Houston. He is working on expansion and revision of a parenting book and a new book bridging theory with research and practice.*

Differentiation According to What and Whom?

Even "differentiation" often has acquired a collective connotation instead of a personalized one. The first structured approach for tailoring education to the needs of gifted students was established by Ward (1961) using a series of principles to develop what he called "differential education for the gifted." Focusing primarily on curriculum, Ward also included some instructional components that required attention to ensure appropriate accommodation to gifted students' needs, though consideration for need was more global than personal. Although several curricular development systems presently recommended in gifted education do, in fact, emphasize curriculum designed to varying degrees around individual students (Feldhusen, H. 1981; Feldhusen, J., 1995; Kaplan, 1986; Renzulli, 1988, 1992; Renzulli, Smith, & Reis, 1982), most modification today appears to be centered on group differentiation

- continued on next page

rather than on individualized differentiation. Although today's curriculum designers in gifted education typically adhere to Passow's (1979) guidelines for differentiating through breadth, depth, tempo and kind, curricular differentiation rarely reaches the individual level. Current efforts seem to focus on ways to organize, structure and expand study of predetermined curricula rather than on personalizing curricula itself.

The Classroom Practices Study (Archambault et al., 1993), conducted by the National Research Center on Gifted and Talented, examined the instructional and curricular practices employed with gifted and talented students in 46 typical 3rd- and 4th-grade classrooms representative of each region throughout the United States. At each locale, two target students, one of gifted/talented ability and one of average ability, were observed intensively for two days. Detailed analyses of efforts to differentiate curricula and instruction were conducted, and results indicated that 84% of the activities across reading, language arts, mathematics, science and social studies in which target gifted students were included contained no form of curricular differentiation.

A poll of gifted education curriculum decision-makers representing 100 school districts in 20 states conducted recently by University of Houston researchers (Olenchak, unpublished manuscript) reinforced this trend. The positive side of the findings revealed that all 100 school districts were, in some way, altering traditional curriculum and instruction for their gifted students in at least some grade levels. Most common elements of differentiation were increased complexity and depth of curricula, coupled with accelerated pacing and an activity orientation in instruction. However, a negative side also emerged in the findings of the survey. Only 3 of the respondents were able to describe any significant curricular and instructional differentiation that took place for gifted and talented students on a personal level. Even in 17 of the school districts polled that use an individualized education program, a process adapted from Federally-mandated Special Education, all but one reported that major curricular portions of those "individualized" programs were actually designed for groups of gifted students. Consequently, it can be reasonably concluded that differentiation is largely based around a philosophy that gifted students are in need of virtually the same curricular components by virtue of the fact they are all gifted. The notion of a personally meaningful curriculum is largely absent.

Though the point of this unscientific poll was not to question the overall quality of curricula in gifted education or to draw premature conclusions about the nature of instruction, there is cause to worry. Even if instruction is personally tailored to gifted students' interests and needs, if the curricula itself is of little interest or satisfies no personal need, gifted pupils are likely to lose out. In practice, then, they would be apt to participate in a host of individually appropriate teaching activities that encompass curriculum about which they care little or nothing. Hence, as curricular differentiation tends to be based on gifted students' needs as a group, even when coupled with truly personalized instruction, gifted students on an individual basis may well be out-of-sync with curricula. Bona fide differentiation of curricula and instruction must account for students' needs on a personal level.

Backing Back into Basics through Testing

While the educational "back to the basics" movement of the 1980s has acquired new nomenclature such as "essential skills," schools in virtually every location in the United States are, for accountability purposes, forced to demonstrate their worth via measurements of basic curricula. Most states, for expediency's sake, use group standardized tests as the yardstick against which the worth of school districts, individual schools and even single teachers is gauged. Although few would argue that producing a literate, reasonably articulate populace in all fields is critical to society's future success, it would be far more difficult to achieve consensus on what comprises the primary, essential or basic components of education. What is it that everyone must learn? By first answering this question, educators concerned with gifted youth can then determine what differentiation of curricula might mean in practice. Basic curricula mostly remains as it was a century ago, though to allow for new information and skills created since 1900, textbooks and instruction are more like a collection of snacks than a comprehensive feast. Studies of textbooks and instruction have revealed an ever-broadening but increasingly shallow curriculum so as to include a taste of virtually everything (Beck & McKeown, 1988;

- continued on next page

Kersch et al., 1987; National Assessment of Educational Progress, 1992). The elements of content and the kinds of skills that garner the most significant attention in curricula and instruction are likely those that are ultimately assessed; in effect, testing has shaped curricula instead of the reverse. To be sure, the important educational tenet of curricular alignment, where tests match with the curricula they measure, could fairly be today termed "assessment alignment," indicative that the measurement tools now often serve to govern what is taught instead of the reverse. One need only study the frequency with which schools have shifted emphases back and forth on some programs over the years to reinforce the notion that schools have an unclear definition of essential education. For instance, arts programs often have been reduced or eliminated during tightened economic times, yet they are suddenly restored when budgets allow. Does this mean the arts are not part of basic education? Then, how about study in government; is that not vital to the development of an educated population in a democracy?

Recently, an edition of The Jim Bohannon Show, a syndicated radio "talk" program, entertained calls from listeners to comment about the impeachment procedures against President Clinton. One caller, a verbally articulate man who described himself as a successful business executive, spoke in terms of his frustration that governmental functions "were in a quagmire because of the laborious procedures impeachment evidently required." Continuing this line of thought, the man criticized Congress for "malaise about everything except the impeachment proceedings—that only the President continued to pass any legislation."

Based on use of language alone, it can be reasonably conjectured that the caller was probably the educated man he self-described, but his lack of knowledge about how legislation evolves in our democracy was indicative of a significant Swiss-cheese-like hole in his educational foundation. Even as the show's host attempted to correct the caller's misunderstanding of our government, the man became defensive. Despite his success in the world of business, he obviously had missed curriculum intended to instruct in the legislative process in the United States, believing that the President passes legislation. While it is surely important to a democracy's survival for its citizenry to have at least functional knowledge of the legislative system, can it be at least tentatively concluded that comprehending the Federal governmental process is not critical to life success? Or, was the caller not especially interested in government during his school years, skipped that part of the curriculum and still managed to achieve in some personally meaningful way beyond the school walls? If the latter, then it makes logical sense that schools can afford to personalize curricula to student interests, rethinking what is meant by "basic education" along the way. Rather than measuring educational success or failure using group assessments designed around fairly dated definitions of "basic," perhaps it is time once again to consider students as individuals. What is basic and important to one pupil may not be so vital to another.

Asynchrony in curricula develops for gifted students when they can find no personally meaningful purpose in the content and processes presented in classrooms even if the instruction is personalized. The great wave of test-driven schools has served all but to eliminate consideration for individual student needs, and this assembly line view of curriculum and instruction has had particularly appalling effects on gifted students.

What is Curricula for "the Gifted?"

Curricular excellence notwithstanding, the likelihood that any one prescribed curriculum can satisfy the needs of all gifted students is inconceivable. Based on curriculum development and instructional research in gifted education, rather than a single test-driven curriculum, there is more likely a set of negotiable and nonnegotiable principles for designing and delivering curricula (Kaplan, 1986; VanTassel-Baska, 1993; Renzulli, 1988). First, however, educators must review current perspectives of required foundational knowledge and skills and arrive at some degree of consensus regarding what it is that all pupils must master—the "nonnegotiables:" what aspects of curriculum are less vital but still preferable for all students to know and the "negotiables:" what skills and knowledge are more domain-specific (those useful to students who truly find themselves invested and interested in a particular field of human endeavor). As radical as this may sound, it is exactly how schools function in a number of highly advanced nations other

- *continued on next page*

than the United States.

Literacy in the elemental aspects of at least one language (reading and writing) and of mathematics (the four basic calculation processes) is surely nonnegotiable no matter the nation in which one resides. Understanding key concepts about government, economics and scientific thought also is likely critical for all. Yet a parade of facts and skills about which American students are consistently tested may be far less vital. Surely, memorizing capitals of nations and states is not especially important unless one plans to play Trivial Pursuit or become a contestant on Jeopardy. Further, is it essential that all students learn to dissect organisms or to understand chemical elements? While experiences entailing all aspects of curricula across all fields of study are helpful in acquainting young people with the array of content disciplines, schools typically move students into studies at higher levels of sophistication regardless of individual interest and/or need. All too frequently, the underlying reason for doing so has less to do with utility of information and more to do with enhancing students' test scores. But what if the tests for which students are preparing have little relationship with their personal interests and aspirations?

Despite the effort to reform curricula for all students and for gifted students in particular, the fact remains that educators remain fairly unclear about the components of a comprehensive basic education. Even in gifted education, where student interests are usually accorded some degree of respect in curricular design, a certain arrogance continues to prevail. It is believed that by adjusting curricular depth, complexity and pacing, teachers can accommodate appropriately for gifted students (VanTassel-Baska, 1993). Although there is some truth to this view, depth and complexity are expected in virtually all aspects of the academic curriculum for gifted students, and instructional efforts are not necessarily focused on individual gifted pupils' areas of greatest interest.

In an era in which most experts and groups interested in gifted education, including the National Association for Gifted Children, advocate individual development of talent, how do schools have time to nurture personal talent when sophisticated curriculum is advocated for all gifted students in virtually all content fields? Aside from whatever is ultimately deemed to be foundational for all learners, authentic curricula for gifted students must be tailored around individual pupils, their needs, abilities, desires and passions. Otherwise, gifted education is guilty of the one-size-fits-all mentality prevalent in the remainder of education today—it is simply that the "size" is at a level of abstraction and sophistication more advanced than typical. This is a single mindset toward curriculum and represents little effort at identifying and magnifying personal talent. Although such curricular approaches to gifted education are decidedly better than no services whatsoever for able students, they fail to provide for levels of self-development even remotely comparable to those sought in special programs for students with disabilities. While developing talent among each individual gifted student may not require the same type of educational perseverance that enhancing education for pupils with disabilities entails, there is no doubt that personal development can only come about if education is, in fact, personalized. Global curricular structuring for gifted students, as if they were all of the same fabric and in need of the same tailoring, is as ludicrous as it would be for special education to treat all students with any manner of disabling conditions in the same way.

A Proposal and A Challenge

Though differentiated curriculum is far better than miring gifted students in traditional, undifferentiated curriculum, to be excellent, curricula for gifted students must be personalized. Individualization, long viewed as requiring more work and more time for both implementation and assessment, is the law of the land in special education, and rightly so. Students who present extraordinary educational needs require exceptional educational provisions in instruction as well as curriculum, but to differentiate for the gifted as though they comprise some nameless, faceless, impersonal, collective identity is patently wrong. Differentiating curricula for gifted students in this unidimensional fashion represents a beginning but not a finality.

Renzulli (1988) proposed a "Multiple Menu Model" for differentiating curriculum for gifted students. In it, students' personal interests occupy a cornerstone, and teachers are encouraged to insert their own "artistic modifications," or personal interpretations and

- continued on next page

Carousel

continued

meanings, pertaining to curricula. To address individualized curricular differentiation, educators might turn to the Multiple Menu approach as one way to include the personal aspects of each gifted student in curricular frameworks. Imagine how a gifted student who is even remotely interested in archaeology might respond when she learns that her social studies program includes an exploratory of the mechanisms through which practicing archaeologists draw conclusions. Imagine how that same student might respond to an otherwise mundane assignment about Colonial America when her teacher emphasizes the on-going archaeological investigations in Williamsburg, Virginia.

Gifted students deserve the richness and profundity of sophisticated curricula that is gauged individually and not collectively. It is of essence that curriculum designers in gifted education not marginalize the individual needs of each student but, modeling after our brethren in special education, promote each individual gifted student's development. The Multiple Menu Model presents one option for curricular attention to this task.

Regardless of the approach, it is imperative that educators and curriculum experts in gifted education work hand-in-hand. Addressing each student at an individual level is of essence in gifted programs; to treat gifted students as an homogenous group is not only inaccurate, it is insulting. More than any other goal, gifted programs must aspire to the development of each individual gifted self. To treat gifted students in any way other than the most personal through individualized curricula is tantamount to "group think"—that all gifted individuals must, by definition, be the same.

The challenge for gifted education is to develop a truly individualized stance toward curricula, and along the way, to determine what is basic for all gifted pupils and what is basic for each individual gifted student. To do otherwise represents little regard for each gifted student and presents a total disregard for individuality. The asynchrony many gifted pupils experience between themselves and school curricula does everything to inhibit personalized talent development and may, in fact, serve to obstruct it altogether. There is no magical gifted and talented program curricula suitable for application to all gifted and talented students. Only through personalizing curricula as well as instruction will gifted and talented students be served well educationally. ❖

- continued on next page

G/T Programs Database

The ERIC Clearinghouse on Disabilities and Gifted Education is developing a searchable database of promising or exemplary gifted programs currently in operation around the United States. The database will reside on our Web site <*ericec.org*> and will be accessible by the public at no cost. We are currently seeking nominations for inclusion in the database. If you know of a school-based program (not a summer activity) anywhere in the United States that meets the intellectual and academic needs of gifted and talented children, please send contact information: name, address, phone number, e-mail address and Web site if available. We would appreciate a short statement on what you like about the program, but this is not essential. We can be reached at 800-328-0272 or *ericec@cec.sped.org*. Anyone—teachers, parents, administrators, students—may nominate a program for consideration.

Sandra Berger

References

Archambault, F., Westberg, K., Brown, S., Hallmark, B., Zhang, W., & Emmons, C. (1993). Classroom practices used with gifted third-and fourth-grade students. *Journal for the Education of the Gifted,* 16(2), 103-119.

Barth, R.S. (1986). On sheep and goats and school reform. *Phi Delta Kappan,* 67(12), 293-296.

Beck, I., & McKeown, M. (1988). Toward meaningful accounts in history texts for young learners. *Educational Researcher,* 17, 31-39.

Feldhusen, H.J. (1981). Teaching gifted, creative, and talented students in an individualized classroom. *Gifted Child Quarterly,* 25(3), 108-111.

Feldhusen, J.F. (1995). Talent development as the alternative in high school gifted programs. *Understanding Our Gifted,* 7(4), 1, 11-14.

Gottfried, A.W., Gottfried, A.E., Bathurst, K., & Guerin, D.W. (1994). *Gifted IQ: Early developmental aspects. The Fullerton longitudinal study.* New York: Plenum.

Kaplan, (1986). The grid: A model to construct differentiated curriculum for the gifted. In J.S. Renzulli (Ed.), *Systems and models for developing programs for the gifted and talented* (pp. 180-193). Mansfield Center, CT: Creative Learning Press.

Kersch, M., Nielsen, E., & Subotnik, R. (1987). Techniques and sources for developing integrative curriculum for the gifted. Journal for the Education of the Gifted, 11(1), 56-68.

Morelock, M.J. (1992). Giftedness: The view from within. *Understanding Our Gifted,* 4(3), 1, 11-15. National Assessment of Educational Progress (1992). Framework for the 1994 NAEP U.S. History Assessment. Washington: Council of Chief State School Officers.

Olenchak, F.R. (unpublished manuscript). *The nature of curricular differentiation for gifted students in100 diverse school districts.*

Passow, A.H. (Ed.) (1979). *The gifted and the creative: Their education and development. The seventy-eighth yearbook of the National Society for the Study of Education.* Chicago: University of Chicago Press.

Piirto, J. (1990). Profiles of creative adolescents. Understanding Our Gifted, 2(3), 1,0-12.

Renzulli, J.S. (1988). Th Multiple Menu Model for developing differentiated curriculum for the gifted and talented. *Gifted Child Quarterly,* 32(3), 298-309.

Renzulli, J.S. (1992). A general theory for the development of creative productivity through the pursuit of ideal acts of learning. *Gifted Child Quarterly,* 36(4), 170-181.

Renzulli, J.S., Smith, L., & Reis, S.M. (1982). Curriculum compacting: An essential strategy for working with gifted students. *Elementary School Journal,* 82, 185-194.

Rimm, S. (1995). *Why bright kids get poor grades: And what you can do about it.* New York: Crown.

Silverman, L.K. (1993). The gifted individual. In L.K. Silverman (Ed.), *Counseling the gifted and talented* (pp.3-28). Denver: Love.

Silverman, L.K. (1995). Highly gifted children. In J. Genshaft, M. Bireley, & C.L. Hollinger (Eds.), *Serving gifted and talented students: A resource for school personnel* (pp. 217-240). Austin,TX: PRO-Ed.

Terrassier, J.C. (1985). Dyssynchrony and uneven development. In J. Freeman (Ed.), The psychology of gifted children (pp. 265-274). New York: Wiley.

VanTassel-Baska, J. (1993). *Comprehensive curriculum for gifted learners.* Boston: Allyn & Bacon.

Ward, V.S. (1961). *Educating the gifted: An axiomatic approach.* Columbus, OH: Merrill.

INTERACT!

....a forum for discussion of what is important in the lives of gifted children and those who live and work with them. Share your views and opinions, your successes and frustrations, your expertise and your dreams.

I read each issue of *Understanding Our Gifted* with great interest. Not only do the articles in your journal help me with the gifted in my class, they help me remember that all children have unique qualities that must be valued. They strengthen my belief that I am a teacher of ALL children—and particularly EACH child. Every year my 3rd grade classroom consists of children of many varying disabilities and abilities. It's my job and my challenge to help them all.

As a teacher, I must figure out each child's needs and work with them, no matter what they are—learning disabled, handicapped, gifted etc. Your journal helps my understanding of every child.

Elaina Mills
Michigan

99 BEST COPY AVAILABLE

Notes From Home

Allegra Sanchez

When In Doubt

Doubts. Large or small, to one degree or another we all have them. I had doubts about homeschooling, which is why it took us so long to start, and some of the worst ones erupted during the early days of educating our children at home. If it hadn't been for friends who already had a lot of experience to their credit, I don t know how we would have made it through those rough times. Our homeschooling is so much a part of our lives now that I'd almost forgotten the fear and trepidation of the first months, but it all came back to me when I got a call from my friend Beth.

Beth's husband Roger recently decided that it would be in the best interests of their two extremely gifted boys to be homeschooled. Eric, the younger child at age 5, was so bored in kindergarten that he was becoming a "nuisance" according to notes from his teacher and the school guidance counselor. Among other things, Eric was simply refusing to cooperate with the teacher. Donald, 8 and in 2nd grade, was becoming impassive, withdrawn and, it seemed to his parents, depressed. All Beth's and Roger's efforts in trying to deal with the school, to convince the teachers and the administrators that a different approach needed to be taken with their children, were to no avail. The school's official position that "all children are gifted" did nothing to help these youngsters, and professional testing evidence of exceptional intelligence together with the psychologist's recommendations did nothing to sway the thinking of people at the school. Despite plans to reclaim her premarital life as a sculptor and some reluctance to give them up, it was clear to Beth that her sons' emotional and intellectual development was at stake. She agreed to leave the welding equipment in storage a while longer and instead take up the tools of a homeschooling mom.

Beth is an extremely competent, confident and capable woman. In addition to being highly regarded in her field, she has a BFA from Syracuse University as well as a teaching certificate. Anyone would agree that an individual with such credentials would definitely be qualified to teach her own children. A few weeks into their new lifestyle, however, Roger came home to find the boys in their rooms for a time-out and a very upset Beth. She didn't think this homeschooling thing would ever work, she told him. The boys weren't cooperating, at all. Donald, while no longer withdrawn, was rapidly approaching the opposite end of the spectrum and becoming aggressive, while Eric, who wouldn't cooperate with his teachers, wasn't cooperating with her either. Add to all of that the fact that she still had to be Mom and do the cooking and cleaning and nose-wiping all day long, and it was just too much. Her doubts about the endeavor were huge and, it seemed to her, insurmountable. However difficult things had been with them in school, she thought maybe the boys would be better off back there after all.

Roger listened to her concerns and complaints but was determined

- continued on next page

***Allegra Sanchez** is a writer, volunteer worker and homeschooling parent of two gifted children. She and her family live in Texas.*

Notes

continued

that the boys not go back into a school environment. He suggested she contact someone who'd had lots of experience with homeschooling, someone who'd been through the rough beginnings of going from school to home for learning, someone who could offer support and guidance. In short, someone like me.

I got the call from Beth the next day. I wasn't prepared for her litany of doubts and concerns, but after I'd been listening awhile they all began to sound familiar. Walking through them with her, I remembered having had most of the same troubling thoughts when our own homeschool experience began. It would have been easier to brush her concerns away with a comforting but condescending "There, there, this too shall pass," but I knew she needed more than that. I phoned some people, all experienced homeschool parents (one with children grown and gone from home), and invited them over as an impromptu support group for Beth, certain their words of encouragement and commiseration would be helpful.

Later that same afternoon, while children of varying ages and abilities played and talked outside, the adults gathered in my family room. Beth, who was glad to have her boys meet some new friends and run off some energy, was even more pleased to be in the company of adults who understood her situation. She already seemed more relaxed than she'd sounded earlier on the phone. I was about to point this out to her when she turned to me and said that perhaps this was something she needed all along, contact with like-minded adults. It's difficult to be around children all day, every day, even when they're yours and you love them dearly. Adults need other adults.

One by one the other members of our group shared their experiences with Beth. Elliot, the one dad of the bunch, told her how difficult it had been for him in the beginning until he learned to be less rigid. His three children all had very different temperaments, interests and energy levels. What worked for one didn't work for another. The first and second children could work well together, but the first and third clashed horribly. The very structured learning plan Elliot initially devised had to be restructured again and again until he discovered that it really was easier for him to let each child pick his or her own subject matter, leaving him to supervise and provide assistance where and when it was needed. He added that he still viewed their homeschooling experience as a work in progress, a process rather than a finished product.

Then Lindsey spoke up. Taking time for herself was an important issue, but she didn t realize it until she had a day like the one Beth had had. She told of that day, when everything came crashing down around her and she, too, had felt she just wouldn t be able to handle homeschooling. Her daughter, Alison, is very intense and active. Lindsey spent so much energy being involved in Alison's days that she'd overlooked her own needs. A long talk with her husband resulted in what amounted to a minor rearrangement of domestic tasks, but it was all she needed to regain her equilibrium. They worked out that after weeknight dinners, John and Alison would do the dishes, clean the kitchen and spend daddy/daughter time together while Lindsey did whatever she pleased. Sometimes that meant a long bubble bath, reading, a leisurely walk or an evening at the movies by herself or with a friend. And once every other week Lindsey and John hired a sitter and spent time enjoying each other's company. This arrangement became habit and worked well for several years; it also had the side benefit of fostering a very strong bond between Alison and John. These days, Alison does the dishes and cleans the kitchen by herself, but after that, she and John sit down to play chess or discuss Alison's latest project. Lindsey still has the quiet time if she wants it, but more often than not she joins in their discussion. And she and John still have their weekend dates.

One by one the stories continued. Ramona mentioned how difficult the process of deschooling had been. (For a more thorough discussion of deschooling, see the Spring, 1997 issue of *Understanding Our Gifted*.) Ramona's philosophy leaned toward unschooling, but during the first few months she became doubtful about its efficacy. However, once they came through that uncertain deschooling period everything settled down and got better each year. She added that it helped her to have the assistance of other experienced unschooling parents.

Another parent said that her tactile/kinesthetic children needed lots of field trips to museums, farms, fields and so forth. Staying inside trying to learn exclusively from books made the kids edgy and uncooperative. Obviously, organized, sit-down work was not for her children, but it took a while to figure out what, exactly, *would* work. She told of the day, a particularly bad one, when a visiting friend suggested they get out, go to the zoo. The effect was nearly miraculous and altered both her perceptions and

- continued on next page

Notes

continued

approach. Not only had the children been well behaved that day, they were actually excited about learning new things about the different animals and even continued their investigations once they got home. After that it was simply a matter of identifying appropriate places to go and keeping the car gassed up.

Bonita wondered at times whether her child was actually learning anything. The early days for her were full of doubt, but she learned to trust in her son's innate curiosity and desire for knowledge. Any lingering doubts were allayed recently when her son took the SAT and scored very well. The mom whose children were now in college confirmed that feeling of satisfaction and reassurance. She said that in the end everything worked out beautifully, in spite of all her worrying. They just had to work through their own problems and their own chaos until they came out the other side happy, healthy and well prepared to move on in the world.

There were other comments and suggestions, and I watched Beth take them all in. Computer programs and the Internet were helpful for some people but not for others. A few children craved workbooks, and others couldn t stand the sight of anything remotely schoolish. One thing that everyone agreed upon was that a support group of some sort was extremely helpful, especially in the beginning of the homeschooling journey. One mom of younger children invited Beth to join her on-going group, saying it would give her the regular opportunity to meet with other adults, compare notes, get ideas, share resources and recharge her energy levels. It would also provide an automatic play group for her children. Beth gratefully accepted the offer.

When we were all finished and the people gone home, Beth listed what had been made abundantly clear to her: (1) doubts, sometimes strong ones and especially in the beginning, are normal; (2) a support group of some sort can be very beneficial to parents and children alike; (3) it's important to have faith in your children and yourself and to believe in their innate desire for knowledge; (4) and while no one can see the future, everyone had agreed that the end result was well worth the beginning anxiety.

That gathering happened several months ago. Beth tells me she still has days when her doubts seem palpable but that she's developing ways of coping so they don't get out of hand. The boys are settling down, too, and are starting to rediscover themselves. I didn't say, but I'm sure she knows, that there are bound to be more rocky spots along the way. But it will all work out for the best for them; I've no doubt about it. ❖

Did You Know?

Most of us use the term "listserv" in conjunction with an Internet mailing list such as TAG-L or TAGFAM. Recently I discovered that its use might violate a copyright. It turns out that LISTSERV automated mailing list management software is a registered trademark of L-Soft International, Inc. Landover, MD (*http://www.lsoft.com*). Although LISTSERV refers to a specific mailing list server, the term is sometimes used incorrectly to refer to any mailing list server. Using the term generically can be a copyright infringement.

Another popular mailing list server is a freeware package called Majordomo. [Source: TechEncyclopedia (*http://www.techweb.com/encyclopedia/*) and PCWebopaedia (*http://webpedia.internet.com*)]

Sandra Berger

Surfing the Net

Gifted Legislation and Homeschooling

Sandra Berger

Supporting Legislation

A grassroots effort to bring parents together to support the Gifted and Talented Students Education Act of 1999, a federal funding legislation proposal, and to improve public awareness about the nature and needs of gifted learners, has been taking shape for several months. The official name of the group is the National Network of Families with Gifted Children (NNFGC). The group is led by Susan Christensen *susanc@phonet.com*, legislative contact, and Terry Stetson Wilson *pals222@aol.com*, Director of PALS, the Florida advocacy group. Susan, an NNFGC board member with significant Congressional expertise, is speaking for the organization to members of Congress and other elected officials about the Federal Funding bill. Terry has experience in keeping advocacy groups growing, focused and moving in the right direction. She and Mary Eileen Wood, editor of the New York AGATE's newsletter *mewood@ibm.net*, are the networking contacts. A new e-mail list provides updates on the Federal Funding Legislation for gifted. To subscribe to this free service, sponsored by the NNFGC, send a message to *majordomo@scri.fsu.edu*. In the body of the message type in lower case letters: *subscribe nnfgc*. This is an "announcement only" e-mail list, not a discussion list. In the future, you are likely to find tips on advocating for gifted at local, district and state levels, and occasional suggestions for actions you might want to take to support the funding legislation.

When you visit the Web site *http://www.NNFGC.org* look for the Federal Legislation link and the list of co-sponsors of the proposed legislation. You will also find a complete explanation of the proposal. To read the text of the legislation, use Thomas, the Library of Congress locator *http://thomas.loc.gov/*. Type the bill numbers or the word "gifted" in the appropriate box on your screen. Bill numbers are:

1. Gifted and Talented Students Education Act of 1999 (Introduced in the Senate) [S.505.IS]
2. Gifted and Talented Students Education Act of 1999 (Introduced in the House) [H.R.637.IH].

Thus far, the group is networking with people from 33 states, people like you and me, and is working with national organizations such as the National Association for Gifted Children (NAGC) and Council for Exceptional Children (CEC)-TAG. You do not have to have a lot of experience in advocacy to join this group—just commitment to gifted education. There are no dues and no meetings in the traditional sense. Communication is by e-mail. Choose your own level of participation, and expect to enjoy the partnership and support of other gifted education advocates. The NNFGC needs representation from every state, so don't wait. Join now by subscribing to the mailing list. Then send a message to Terry or Mary Eileen and let them know that you're out there and ready to support the group's mission. Support our children's future.

***Sandra Berger** is the Information Specialist for Gifted Education at the ERIC Clearinghouse on Disabilities and Gifted Education in Reston, Virginia. She is the author of College Planning for Gifted Students.*

- continued on next page

Surfing the Net

continued

Homeschool Study

Students schooled at home score higher on standardized tests than their public and private school peers in every subject and at every grade level, according to a report released in March, 1999, that is being billed as the largest study of its kind. Underwritten by a $35,000 grant from the Purcellville, Virginia-based Home School Legal Defense Association, the study is based on 20,760 homeschooled students from 50 states. The study's author is Lawrence M. Rudner, a researcher who also serves as the director of the federally funded Educational Resources Information Center (ERIC) Clearinghouse on Assessment and Evaluation at the University of Maryland College Park.

The goal of the homeschooling study was, in part, to independently verify findings from earlier studies conducted by homeschool advocates. Although homeschoolers performed well above the median on standardized tests, verifying the earlier studies, the study does not prove nor was it intended to prove that homeschooling is better than traditional education. However, it can be said that for those who choose homeschooling, it is working.

Families who pay to use the nation's largest homeschool testing service through Bob Jones University in Greenville, South Carolina comprised the study sample. About half the families returned a voluntary questionnaire. Depending on grade level, students either took the Iowa Tests of Basic Skills or the Tests of Achievement and Proficiency. Unlike earlier studies, the parents did not know their children's test scores before agreeing to take part in this one, and all students took the same nationally normed tests--those that rank students against one another. Homeschoolers' median scores across grade level and subject area typically fell in the 70th to 80th percentile. Almost 25% of the homeschoolers were studying at one or more grades above normal for their age. The study found significant achievement differences among homeschoolers, depending on factors such as family income, parent education, and amount of money spent on home education. The vast majority of homeschooled students under study, 94%, are white. They tend to come from two-parent families, and they watch significantly less television than children nationwide. Nearly 88% of homeschoolers' parents continued their education after high school, compared with 50% for the nation as a whole; the median income for homeschool families was $52,000 versus $36,000 for all United States families with children.

Other findings were: Students homeschooled their entire academic careers tested higher than students who first attended other school programs; nearly 20% of mothers who homeschool are certified teachers; and there was no significant difference in test scores between children taught by parents without a teaching certificate and those whose parents did hold a certificate.

After the findings were released, I asked Dr. Rudner if the study indicated that accelerated students were gifted, or might have been labeled gifted by public school programs. He responded by saying that the study demonstrates that students working above grade level are achieving at or above the 80th percentile. I also explored the possibility that homeschooling families have more children than the national norm, which might explain a higher income. The answer to that question as well as others will have to wait until the data is examined in that context.

The United States Department of Education estimates that more than 1 million students nationwide are homeschooled. These numbers represent a substantive increase over the estimates just 10 years ago. The findings of the study are important, not only because the study represents a sizable population, but also because the number of homeschoolers increases every day. Does the increase represent children whose needs have not been met by the public school system?

Homeschooling today is very different from 10 years ago, in part because of available resources. Anecdotal evidence indicates that most homeschooling families have a connection to the Internet and use it regularly to find information, communicate with other homeschooling families and to create products. For example, the Web site Brightwood *http://www.brightword.com/links.html* includes links to other sites that have been designed and are run by young teens. Student-designed Web pages are found everywhere; the Internet provides a place where children can publish their products and get rapid feedback from students in other countries. In addition, the Internet makes it possible for students to take Advanced Placement courses at a younger age than their school-based peers.

Although the study did not address socialization, Christian Smith and David Sikkink, sociologists at the University of NorthCarolina, point to United States Department of Education data that show homeschooled students are more likely than their public school peers to take part in civic activities, such as volunteering for political causes or joining community organizations.

The homeschool study was disseminated by at least 12 major

- continued on next page

newspapers online, and C-span carried an hour-long interview with Dr. Rudner. Coverage alone does not equal a trend, but hopefully some of the myths and concerns that surround homeschooling are being addressed in public forums.

REFERENCES AND RESOURCES

Online Reports (*references used in this article)
* Rudner, L. M., 1999. *Scholastic Achievement and Demographic Characteristics of Home School Students in 1998.*
http://epaa.asu.edu/epaa/v7n8
Sponsored by the Home School Legal Defense Association and published as Education Policy Analysis Archives, v.7, n.8. (See next citation for popular version of this work.)

* Rudner, L. M., 1999. Home Schooling Works.
http://www.hslda.org/nationalcenter/statsandreports/rudner1999/
This is popular version of the above work, published by Home School Legal Defense Association.

* Education Week *http://www.edweek.org*

* Smith, C. & Sikkink, D., 1999. Is Private Schooling Privatizing? First Things, Number 92 (April), pp.16-20.

Advocacy Associations
Home School Legal Defense Association (HSLDA)
http://www.hslda.org/
HSLDA has established a reputation as an articulate and effective national lobbying and advocacy organization to Congress and to the media. The site offers legislative alerts, law summaries for each of the United States and a conference calendar, plus more.

National Home Education Research Institute (NHERI)
//www.nheri.org/
NHERI's mission is to educate the general public about homeschooling, as evidenced by its online factsheets and lecture schedules.

Testing Services for Home Schooling Families (Directory)
http://ericae.net/testdir_hs.htm
This directory, compiled by the ERIC Clearinghouse on Assessment & Evaluation, provides sources of standardized tests for homeschooling parents. Although, typically, standardized test publishers require certification for test administration, these sources have arranged for variable agreements with the publishers to relax the certification requirements for this special population.

Eric Digests [Topical Overviews]
Aiex, J.K., 1994. *Home Schooling and Socialization of Children.*
http://www.ed.gov/databases/ERIC_Digests/ed372460.html

Ensign, J., 1997. *Homeschooling Gifted Students: An Introductory Guide for Parents.*
http://www.ed.gov/databases/ERIC_Digests/ed414683.html

Lines, P.M., 1995. *Home Schooling.* ED381849 Apr 95 ERIC *Digest, Number 95. http://www.ed.gov/databases/ERIC_Digests/ed381849.html*

Masters, D.G., 1996. *Public Library Services for Home Schooling. http://www.ed.gov/databases/ERIC_Digests/ed402936.html*

Rudner, L.M. & Farris, M.P., 1992. *A Precedent for Test Validation.*
http://www.ed.gov/databases/ERIC_Digests/ed355250.html

Miscellaneous Resources For Homeschooling
What is Homeschooling?
http://www.accesseric.org/resources/parent/homesch.html

Homeschooling Resources for Parents and Students
http://www.accesseric.org/resources/parent/homesc2.html

A Homeschooling Mini-bibliography (EB 18) that lists all the standards organization as well as other hard-to-find resources.
http://ericec.org Select GIFTED, then MINIBIBS

Two topical overviews offered by Access ERIC, from its set of Parent Brochures
http://www.accesseric.org:81/resources/parent/parent.html

Sites for Homeschooling Families - by the Children and Technology Committee of the Association for Library Service to Children, American Library Association
http://www.ala.org/parentspage/greatsites/parent.html#b

Homeschooling - a long list of resources from the Northwest Regional Educational Laboratory (NWREL)
http://www.nwrel.org/sky/Office/Main/Involving_Family/Home_Schooling.html

sberger@inet.ed.gov

The ideas expressed in this article are the author's and do not necessarily represent the views of the CEC or ERIC Clearinghouse on Disabilities and Gifted Education.

The URLS were accurate and working when last checked. The Internet is a dynamic place, and changes take place rapidly and without the server, the server might be temporarily down or the URL might have changed. Try again later or truncate the URL.

The Bookshelf

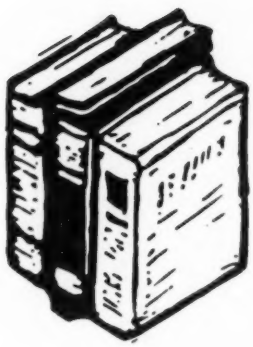
Suzy Schettler

Those Devilish Numbers

We have a math fanatic living in our house. Our younger son has always been fascinated with numbers and patterns — he even thinks fractions and averages are *fun*! He's not alone in his passion, however; many gifted children seem to connect with and be excited by mathematical exploration. From an early age they seem to instinctively play with numbers and patterns, excited by their discoveries. Unfortunately, this early excitement can get buried and virtually crushed under years of number drill and an endless repetition of worksheets covering concepts long since mastered. Even in children who have exceptional natural mathematical ability, the result is too often a math aversion.

One mother told me her son had come to believe he was terrible at math, despite the fact that ability testing had shown just the opposite. Unfortunately, his strong natural ability and interest had shut down under the repetitive assignments of concepts long since mastered. What resulted were careless errors on tests and assignments — errors that contributed to his feelings that he was no good at math and to his plummeting self esteem. This along with his aversion to rote memorization for things like multiplication tables became a recipe for math disaster.

The Number Devil: A Mathematical Adventure by Hans Magnus Enzensberger (1997. Markham, Ontario, Canada: Fitzhenry & Whiteside) is a book that deals with just this scenario. Yet, because it's presented in such a delightful way, it's a fun read for the math aversive and math fanatical alike, and for everyone in between. 12-year-old Robert has decided that he despises math and anything to do with numbers. He's had his fill of his math teacher Mr. Bockel, and his constant, seemingly pointless assignments. But one night Robert is visited in his dreams by an elderly man the size of a grasshopper, who bobs up and down on a spinach leaf. The little man is, of course, the Number Devil, come to show Robert that mathematics is more, much more, than counting pretzels and endless worksheets.



Many readers will find much to relate to in Robert's feelings about math and math class. They will likely be shocked (and secretly delighted) to read the Number Devil's response to Robert's complaining about his class assignments: "That kind of problem has nothing whatever to do with what I'm interested in." When he goes further to reveal that many genuine mathematicians are bad at sums, eyes will open wider, smiles are likely to erupt and readers will be hooked! How can one not want to know where such an unusual book with such extraordinary statements will lead next?

The chance to explore big concepts and new ideas is something most gifted children thrive upon. They bite off huge chunks of new information, chew it thoughtfully, develop theories and connections and let it simmer in their minds. Math is no different if

- continued on next page

***Suzy Schettler**, from Ontario, Canada, is the homeschooling mom of two gifted sons.*

they're allowed to explore and ponder, but too often it becomes little more than learning to follow rules and repeat simple algorithms. The Number Devil reveals a world of math full of tricks and fascinating coincidences which, at times, seem almost magical. It offers readers a chance to investigate new ideas and see things in a different way. This isn't worksheet-and-word-problem math, but math that's alive, with which the Number Devil encourages thinking and questioning and experimentation. It's an invitation most gifted children would find hard to resist.

In nightly dream visits, the Number Devil introduces Robert to things like prime numbers, square roots and irrational numbers. Of course, the Number Devil doesn't call them by those names; in Number Devil Land, prime numbers are known as prima donnas, irrational numbers he calls unreasonable, and finding the square root is called taking the rutabaga. On nights Robert dreams of a visit by the Number Devil, he finds himself transported to whimsical locales such as a forest of ones or a desert with coconut trees where the Number Devil uses coconuts to show Robert the concept of triangle numbers. All kinds of interesting tools aid Robert's understanding. While sitting on a giant mushroom, Robert skywrites his math answers in purple cloud script using the Number Devil's magical walking stick, and another time Robert uses a pocket calculator as large as a couch. In fact, the nightly visits are so interesting and unusual, that my resident math fanatic told me he hoped when he fell asleep at night that the Number Devil would come to visit him!

Robert doesn't always have an easy time grasping every concept introduced, which is another comforting feature of this book. While gifted children often thrive on difficult and challenging ideas, it doesn't mean they don t struggle in their quest to understand. Many can think of a time when, on the brink of a large and difficult concept, they find themselves unable to quite *get it*. This can be especially true for children who have decided they're poor at math and have shut the door to it. Opening that door just a crack can sometimes be frustrating, exhausting and more than a little overwhelming for them. More than once Robert feels that way himself and expresses a desire to simply give up and leave, but how do you up and leave a dream? In spite of such moments and the high expectations and irritable nature of his fanciful teacher, Robert finds he misses the Number Devil on the nights when he doesn't visit. He also discovers, much to his amazement, that math isn't what he thought it was and that he actually enjoys thinking about the different concepts. The day he utilizes one of the Number Devil's concepts to solve a difficult classroom math problem, shocking his teacher Mr. Bockel, is a highlight in the story and sure to bring a warm feeling of satisfaction to any reader.

The humorous style and creativity the author employs throughout the story will inspire giggles and grins as readers struggle right along with Robert, sharing in his fascination and wonder at this strange and astonishing world of numbers. Somehow, this kind of struggling is fun and entirely different from struggling to memorize all those times tables or remembering to write down all the steps used to solve another boring word problem. Somehow, this world of math is very different than what math has always seemed to be!

Vividly colored illustrations by Rotraut Susanne Berner pepper the book and capture the creative and whimsical journeys Robert takes in his quest for mathematical understanding. Math concepts are extended with suggestions enclosed in colorful boxes throughout the story so that interested readers can explore further on their own. In our home, this translated to my older son sitting hunched over a calculator for several days, investigating his own theories of number patterns.

For those concerned about the Number Devil's rather creative math terminology, rest assured: the back of the book contains a warning from the Number Devil himself which explains to readers that the dream words that he uses may not be understood by everyone, since "Nothing in a dream is quite as it is in school or books." He provides a glossary of math terms listing both his and the accepted term used by mathematicians the world over.

Whether you have a math phobic child or one who lives and breathes math, *The Number Devil* will likely delight and open new worlds of discovery in diverting and interesting ways. Whether read silently or as a read-aloud, as a storybook or as a tool that might renew interest in mathematical thinking, this book is well worth seeking out for children of many ages. ❖

Above & Beyond

Susan Winebrenner

The Dyssynchrony of Being Different

"Getting along" with age peers at academic and social levels is emphasized in classrooms, especially in light of the recent violent episodes in schools. Educators hope to treat anti-social behavior at an early age as a hedge against violent outbursts in later life. In this kind of school environment, the pressure on gifted kids to fit in and be "normal" increases significantly. The dyssynchronous development common to gifted youngsters often makes them stand out when teachers are on the lookout for kids who don't seem to "get along" or "fit in" with other kids in the class. It's stressful for a young person's mind to be developing at a superior rate, while the body in which that mind lives plods along at the standard age-appropriate rate.

The very definition of "gifted" recognizes the dyssynchrony between the gifted person and her age peers. Pressure to be normal is often interpreted by gifted kids as pressure to hide their exceptional abilities in order to appear more like others their age. Everyone loses sight of the fact that these kids *are* normal; they're just not average! This can lead to gifted youngsters going so deeply "underground" that their giftedness may never surface again. What advice can be given to parents and teachers of gifted kids to help avoid or deter these potential problems?

My strong belief is that the earlier we teach kids it's okay to be different, the stronger all kids will be regarding their own differences. When I teach teachers how to improve learning outcomes for students with learning difficulties, they return to their classes to demonstrate how each student has certain learning style strengths which can be utilized to compensate for whatever weaknesses they may have. For example, poor spellers can improve dramatically when they learn visual or tactile-kinesthetic methods for studying spelling words. Students are then empowered to apply knowledge about their learning-style strengths to other areas. At the same time, they come to understand that their learning differences do not mean they're less intelligent, but rather that they now have successful techniques to use, ones different from those usually taught and tested. They are normal — but in a different way.

When a gifted youngster's mind, interests and attitudes are more compatible with those of kids two to three years older, her "social place" may actually be with those who are chronologically older and with whom she may actually appear more mature. Educators need to know that the difference between kids with learning difficulties and so-called "normal" learners is in effect the same as dyssynchronous development in the gifted. The sooner this fact is recognized, the sooner the concept of "geeks and nerds" will disappear, leaving a culture that understands and nurtures the many differences that are indeed "normal." ❖

***Susan Winebrenner**, from Michigan, presents workshops on a variety of topics, but her first love is teaching gifted children. She is the author of Teaching Gifted Kids in the Regular Classroom and Teaching Gifted Kids with Learning Disabilities in the Regular Classroom.*

Leading Journal Since 1988

Understanding Our Gifted Back Issues

Volume 1-3 are out of print.
Call for Out-Of-Print pricing.

____ Issues in Volume 4-8 $8 each plus S/H

Volume 4
- ❒ 4-1 Student Research
- ❒ 4-2 Technology and Education
- ❒ 4-3 Empowering Parents
- ❒ 4-4 Assessing the Gifted
- ❒ 4-5 Collaborative Efforts
- ❒ 4-6 Family Relationships

Volume 5
- ❒ 5-1 Homeschooling
- ❒ 5-2 Promising Practices
- ❒ 5-3 Parent Advocacy
- ❒ 5-5 Young Gifted Child
- ❒ 5-5A Being Out of Sync
- ❒ 5-6 Philosophy of Giftedness

Volume 6
- ❒ 6-1 Valuing Parents
- ❒ 6-2 Excellence Revisited
- ❒ 6-3 Networking
- ❒ 6-4 Talent Searches
- ❒ 6-5 Attention Deficit Disorders
- ❒ 6-6 Mainstreaming

Volume 7
- ❒ 7-1 Spectrum of Giftedness
- ❒ 7-2 Update On Technology
- ❒ 7-3 Recognizing Gifted Young Children
- ❒ 7-4 Secondary Gifted Students
- ❒ 7-5 Exploring Creativity
- ❒ 7-6 Mutual Education

Volume 8
- ❒ 8-1 Multicultural Issues
- ❒ 8-2 Gifted Students - Upper Elem./Middle
- ❒ 8-3 The Visual Learner
- ❒ 8-4 Parenting & Teaching Gifted Children
- ❒ 8-5 Global Connections for Gifted Students
- ❒ 8-6 Affective Needs

Add Shipping/Handling as indicated on order form.

Indicate Volume Specials in your order or call:
800-494-6178/ 303-444-7020

Issues in Volume 9 -11 $12 each plus S/H

Volume 9
- ❒ 9-1 Perfectionism
- ❒ 9-2 Gifted Ed. & the Law
- ❒ 9-3 Inside Giftedness
- ❒ 9-4 Learning Differences

Volume 10
- ❒ 10-1 Educational Options
- ❒ 10-2 Intelligence Revisited
- ❒ 10-3 Parenting & Advocacy
- ❒ 10-4 Curriculum

Volume 11
- ❒ 11-1 The Total Child
- ❒ 11-2 Gifted Girls

To Order, Use Form Below

dorothy@openspacecomm.com
www.openspacecomm.com

Order One Complete Volume (Volume 4-8)
Get another one FREE
– only $45.00 for 12 Issues

*U.S. only * Check Issue Selection above * Call for special Out-of-Print pricing*

Order Form

Understanding Our Gifted Subscription
$35 yr. Individual. $45 yr. Institutions. (Published Quarterly) $_____
International $47 yr. U.S. funds. International Institutions $57. $_____
Back issues $8 each. **(vol 9 -11 $12)** $_____
International $10 U.S. funds **(vol 9 -11 $20)** $_____

Professional Development Series
__ ***Affective Education*** $14.25 $_____
__ ***Parent Education*** $14.25 $_____
__ ***Teens With Talent*** $15.45 $_____
__ ***Smarter Kids*** $15.45 $_____

Audio Tapes - Beyond Giftedness Conferences
__ Tape 1 ***(The Gifted Child As Visual Learner)*** $10.00 $_____
__ Tape 2 ***(Social / Emotional & ADHD Needs)*** $10.00 $_____
__ Tape 3 (***Giftedness & the Visual Learner***) $12.00 $_____

Shipping/Handling $_____

Books, Tapes, Back Issues - Add 10% ($2.50 minimum)
International Subscriptions, Back Issues, Books, Tapes - Add 20% ($7.50 minimum)

Total Enclosed U.S. Funds $_____

Name:_____

Institution:_____

Address:_____

City/State/Zip:_____

VISA/MC Card _____

Exp. Date:_____

Make checks payable to:
OPEN SPACE COMMUNICATIONS, INC.,
1900 Folsom-Suite 108, Boulder, CO 80302
1-800-494-6178

New Place your order from our web site: www.openspacecomm.com

SPRING SPECIALS

1/2 Price Back Issues

Issues in VOLUMES 4 - 8 regular $8

PAY only $4

International regular $10 - Special Price $6

$2 off Books

in Professional Development Series

$2 off Audio Tapes

from Beyond Giftedness Conferences

All Orders add Shipping/Handling

Use Order Form or call 800-494-6178

ASK ABOUT SPECIAL OUT-OF-PRINT PRICING

dorothy@openspacecomm.com

www.openspacecomm.com

Open Space Communications, Inc.

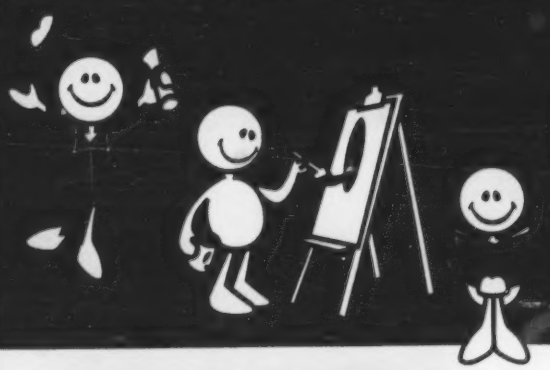
1900 Folsom, Suite 108

Boulder, CO 80302

Change Service Requested

BULK RATE
U.S. Postage
PAID
Boulder, CO
Permit No. 94

**********AUTO**ALL FOR ADC 220
5678 7



UNDERSTANDING OUR GIFTED®

Dedicated to helping gifted children reach their full potential

INSIDE

TEACHING TEACHERS

Summer, 1999 Volume 11, Issue 4

parents

e

ents parents

talented

Publisher
Dorothy Knopper

Editor
Laura Goodman

Design/Desktop Publishing
Ann Alexander Leggett

Editorial Assistance
Joan Franklin Smutny

UNDERSTANDING OUR GIFTED

Open Space Communications, Inc.

Editorial Advisory Board

Alexinia Baldwin
Professor
University of Connecticut

Sandra Berger
ERIC Clearinghouse-Disabilities/Gifted Ed.
Council for Exceptional Children, VA

Ernesto Bernal
Professor of Educational Psychology
University of Texas - Pan American

George Betts
Professor of Special Education
Gifted and Talented
University of Northern Colorado

Barbara Clark
Professor
California State University

LeoNora Cohen
Associate Professor
Oregon State University

James Delisle
Professor
Co-Director, SENG
Kent State University, OH

John Feldhusen
Professor
Purdue University, IN

Carol Fertig
Peak Educational Resources
Cherry Creek Schools, CO

Maurice D. Fisher
Publisher
Gifted Education Press, VA

Jerry Flack
President's Teaching Scholar
University of Colorado,
Colorado Springs

Gloria Frender
Educational Consultant
Brain Power, Inc., CO

Marvin Gold
Publisher, Tapes 'n Books for
Gifted Education, AL

Pamela Hildebrand
Special Education Consultant
Melbourne, Australia

Pat Hollingsworth
University School for Gifted Children
University of Tulsa, OK

Holly Hultgren
Principal
Boulder Valley Schools, CO

Frances A. Karnes
Professor, Special Education
Director, Center for Gifted Studies
University of Southern Mississippi

Elinor Katz
Dean of Education
University of Denver

Bertie Kingore
Shelton Professor & Elementary/Secondary Ed.
Hardin-Simmons University, TX

C. June Maker
Associate Professor
University of Arizona

Joel McIntosh
Publisher
Prufrock Press, TX

Connie McLendon
Executive Director
Texas Association for Gifted/Talented

Garnet Millar
Provincial Coordinator
Guidance & Counseling
Alberta Education, Canada

Sheri Nowak
Assistant Professor
Emporia State University, KS

Rick Olenchak
Professor & Psychologist
Center for Gifted Education and Psychology
University of Houston, TX

Jeanette P. Parker
Director, Center for Gifted Ed.
University of Southwestern Louisiana,
Lafayette

Gina Ginsberg Riggs
Executive Director
Gifted Child Society/PING, NJ

Ann Robinson
Professor
University of Arkansas at Little Rock

Mark Runco
California State University, Fullerton

Ellie Schatz
Executive Director
Wisconsin Center for Academically Talented Youth

Beverly Shaklee
Associate Professor
Kent State University, OH

Dorothy Sisk
Director, Conn Chair for Gifted Education
Lamar University, TX

Joan Franklin Smutny
Director, Center for Gifted
National-Louis University, IL

Stuart A. Tonemah
President
American Indian Research & Development, OK

E. Paul Torrance
Georgia Studies of Creative Behavior

Joyce VanTassel-Baska
Professor
College of William & Mary, VA

Sally Walker
Executive Director
Illinois Association for Gifted Children

Marilyn Wallace
Academic Director
Creative Children's Academy, IL

Susan Winebrenner
Education Consulting Service, MI

Understanding Our Gifted (ISSN 1040-1350) is published quarterly by **Open Space Communications, Inc.**, P.O. Box 18268, Boulder, CO 80308-8268. Subscriptions are $35 for 1 year: Institutions $45. International subscriptions are $47 U.S. funds; International Institutions $57. Back issues available. Third class postage paid at Boulder, CO. For subscription address changes, send mailing label along with new address to ***Understanding Our Gifted***, 1900 Folsom, Suite 108, Boulder, CO 80302, eight weeks before moving. Material in ***Understanding Our Gifted*** can be copied for personal use only. No material can be reproduced for publication without permission. Appropriate credit must be given. Copyright 1999, **Open Space Communications, Inc.** All rights reserved.
(303)444-7020/FAX (303)545-6505/800-494-6178. E-mail: *dorothy@openspacecomm.com* *www.openspacecomm.com*

Focus: Teaching Teachers

Contents

RECEIVED
SEP 16 1999

2- Between the Lines

3- On the Road, Teaching Teachers
Susan Winebrenner

8- Connecting with Gifted Students in Easy, Meaningful Ways
Tracy J. Stegall

12- Carousel....When Mama Bears Go to School
Hope Sargeant

17- Surfing the Net....Teachers Teaching Teachers Through Technology
Sandra Berger

21- Notes from Home....Library Science
Allegra Sanchez

23- Software Updates....Three Winners
Greg Pattridge

26- High Tech but High Touch: Strategies for Teaching and Learning via Distance
Sheri Nowak

29- ParentSpace....Some Ironies of Modern Teacher Training
Laura Goodman

31- Bookshelf....Wonderful Worlds of Fantasy
Suzy Schettler

Between the Lines

Teaching Teachers. This issue of *Understanding Our Gifted* speaks so differently to all of us. To me, the theme is at the very center of education, both at school and at home. In many ways we are all teachers, just as we are also learners.

Each writer has given a unique slant to the topic. Sue Winebrenner draws on her experience with and her passion for the gifted, offering sensible methods for empowering teachers in classrooms. Tracy Stegall emphasizes her personal connection with and her belief in students. Several authors focus on technology in addressing the spectrum of teaching, while others come at it from the more personal perspective of parents. The articles come together, reminding us what education at school and home is all about, elaborating on the intense and awesome responsibility of instructing and raising gifted children and the importance of continuing interaction among all of us.

Like many of you, I have parented and taught gifted youngsters at home and in classrooms. There has always been so much to learn, so much I wish someone wiser had taught me before I plunged innocently and ignorantly into these tasks. I relied on instinct and listened carefully to the teachers and parents around me. I talked to the children and gained so much from them, no doubt much more than I ever taught them.

Supporting each other, seeking out more effective methods, recognizing and accepting differences, guiding our children through the traumatic years of growing up gifted....that is the excitement of education, not fixed and inflexible but dynamic, changing, moving and improving. I visualize a never-ending circle of teachers, parents, children, sometimes in sync and other times not agreeing, but always teaching and learning and growing and caring. ❖

D.K.

111

On the Road, Teaching Teachers

Susan Winebrenner

As I travel around the country, teaching teachers strategies to use with gifted and talented students, I encounter a wide range of attitude, experience and sense of efficacy regarding teachers' perceptions of whether they can do what needs to be done. In my travels, I've noted three primary areas of concern:

- Most classroom teachers have very little training in meeting the learning needs of gifted students in heterogeneous classrooms.
- Most teachers are currently drowning in a flood of expectations for accountability regarding progress for students who are working significantly below expectations.
- Most teachers do not have the appropriate opportunity to experience staff-development methods which can significantly increase their willingness and ability to differentiate curriculum and expectations.

Teacher Training and Student Needs

It continues to be a matter of fact that most teachers enter the field with absolutely no coursework in how to recognize and teach gifted students. This reality reflects the general lack of awareness and concern with the topic of gifted education at most teacher training centers in this country. We could also infer that this topic does not grab much attention from lawmakers and other politicians. Whereas new and experienced teachers are highly likely to have had at least one college-level course in teaching special education students, very few of those same teachers are even remotely knowledgeable about the exceptional capabilities and learning behaviors of gifted students. These youngsters actually learn differently from age peers in at least five important ways. First, they learn new material in much less time; second, they tend to remember forever what they have already learned; third, they perceive ideas and concepts at more abstract and complex levels; fourth, once they glom onto a topic of passionate interest, it is very difficult for them to leave it until they feel they've learned as much as they possibly can; and finally, they are able to operate on multiple brain channels simultaneously, enabling them to monitor the teacher's teaching without paying direct attention.

These differences make "compacting" the curriculum imperative; that is, condensing the regular curriculum. This method ensures that there are always opportunities at the beginning of a unit for those who would like to demonstrate previous mastery of the subject matter or who learn required material at a faster pace than age peers.

Since so few teachers are aware of these realities, their behaviors toward gifted students are likely to reflect stereotypical beliefs. The first belief is that the gifted are highly productive students who should always get high grades. The thought is, they'll "make

- continued on next page

***Susan Winebrenner**, from Michigan, presents workshops on a variety of topics, but her first love is teaching gifted children. She is the author of Teaching Gifted Kids in the Regular Classroom and Teaching Gifted Kids with Learning Disabilities in the Regular Classroom.*

Road

continued

it on their own" without much assistance from teachers. This belief is related to another: that students who are not productive in school cannot be gifted. If I could characterize a single issue that frustrates gifted children, their teachers and their parents, it is this one of whether the student will do "his work." This frustration arises from what I call The Confusion of the Possessive Syndrome. I have rarely met gifted kids who won't do "their" work. What they usually resist doing is the teacher's ("his or her") work. Gifted kids would actually be thrilled to be allowed to use school time to do "their" work, which I define as learning something they don't already know!

This is the first issue I try to clarify with teachers I train. The concept is often somewhat shocking to them since they've usually never considered the notion of "Whose work is this, anyway?" Once this issue is on the table, it's much easier for me to influence them about the practice that differentiation is vitally necessary if the gifted are going to be able to get what they need to actually learn new material on a regular basis.

The second point is that gifted students' work should always be exemplary, neat, beautiful and excellent. Great frustration is experienced by all gifted students, their parents and teachers when the kids sometimes do messy, careless work. Many teachers find it difficult to juxtapose highly intelligent and highly messy and completely disorganized. Professionals in gifted education have slowly come to realize that such profiles actually describe the existence of a learner who may be "twice exceptional"— gifted with a learning disability, ADD or some other type of learning challenge. The "absent-minded professor" version of this sample may be the easiest to spot. When I hear teachers describe a student who can verbalize magnificently but who "refuses to write anything down," I'm quite sure we're dealing with a gifted student with a writing disability. And if a student with such a profile is not twice-exceptional, sloppy messy work is often a sign of frustration over being expected to do tasks that hold no challenge.

Another belief is that gifted students should always want to "go for the gold," be excited about going above and beyond the expectations for age-appropriate learners. Many teachers offer work for extra credit and are perplexed and frustrated when some gifted kids don't take advantage of that opportunity. Parents often encourage this practice by asking teachers to give their kids "more" to do at home in the evenings, weekends or over the summer months. No rational person, at any age, willingly does more than others are doing simply because more is "better." I don't support the notion of extra credit, and I don't ever suggest activities teachers can offer as such.

All my work is targeted at helping teachers design and manage *differentiated* learning options. By this, I mean offering alternate tasks that stretch gifted kids' minds into more abstract and complex types of thinking. That's actually my definition of "gifted" — being able to handle learning tasks that are more appropriate for students two to three years beyond than those at a given grade or course level. Almost every school in this country has a mission statement describing the educational goals of that school. Such a statement usually includes a sentence that sounds something like, "All our students will actualize their learning to their highest potential." Anyone always has the right to ask how this statement is being experienced by students whose natural ability demands exposure to accelerated content in order for them to "actualize their learning potential." Whether or not separate "special" programs for gifted students exist at a school, gifted students have the right to experience what all other students experience regularly: challenging learning opportunities that move eager minds beyond what they already know to experiences that require effort and energy to understand and master. When adults advocate for what their gifted children need in school, it's important not to ask for anything "special." Rather, we should be able to ask any teacher regarding any student, "What evidence do you have that this child is working at his or her challenge level in your classroom?"

Accountability Pressures

It is essential that anyone having anything to do with schools today be aware of the incredible pressures exerted on teachers toward demonstrating "accountability" and "the attainment of standards." Every group I encounter experiences this, which may actually lead individual teach-

- continued on next page

Road

continued

ers and administrators to pay even less attention to their gifted students. The push is on to have all students demonstrate achievement according to grade-level expectations or standards. In some states, teacher job evaluations are tied to these expectations. At first glance, this might seem laudable; after all, as working adults, we have standards we're expected to attain in our own jobs and responsibilities. However, what must be considered is that the numbers of kids who start school with woefully inadequate readiness from their first five years of life have increased dramatically in recent years. Also, significant numbers of kids come to school daily with such heavy emotional baggage that it's often virtually impossible for them to concentrate on cognitive learning tasks. The same expectations for achieving grade-level standards extend to these kids as well. If you're a classroom teacher facing this situation, the needs of students who are working at or beyond the top end of expectations will likely not appear very important to you because they won't bring your class test scores down. Sadly, this is reality for most classroom teachers today.

Many educators acknowledge the reality that highly capable learners need challenging learning opportunities. Their fear, however, is that once they pretest and find some students already know the material they're planning to teach, there will be additional demands on their planning time to locate and set up extended learning experiences. Many teachers worry that there's simply not enough time available to them to accommodate gifted students' needs for compacting and curriculum differentiation. In addition, there is often a fear in some teachers' minds that they won't know what to have the eligible students work on in the time created by compacting. For teachers already feeling overworked and stressed out, this prospect may not be very pleasant.

This situation provides an opportunity for parents to help. As parents, you might suggest topics about which your child is interested and indicate your approval that part of his or her time be spent on differentiated activities related to that area of interest. This method of differentiation is known as enrichment or extensions. I believe it's also appropriate for such students to spend part of their study time working on a specified section of a project at home. This arrangement helps the teacher extend the classroom differentiation into a differentiated homework opportunity. Again, the key is to not ask the teacher for more work for your youngster but for different work to interest and challenge her.

Once teachers learn how to challenge their gifted students in ways that do not result in unmanageable burdens, joy and excitement abound.

However, when students need acceleration of content in addition to or in place of extension, with very sequential subjects such as reading or math, a different type of intervention is indicated. A student might be allowed to work with a group from a higher grade for the subject areas in which he is significantly advanced. In rare cases, where a youngster's entire learning level is significantly advanced from age peers, radical acceleration or double promotion is another option. The benefits of radical acceleration for the right candidates far outweigh any negative factors. It may prove true in some cases that a child who has "skipped a grade" will have a miserable adolescence. But consider: many of us had an unpleasant time with adolescence, even if we remained on grade level with our age peers!

Staff Development

Between districts and states, there is an enormous range of staff development opportunities for helping teachers learn how to become as effective as possible with all types of students. Keeping in mind that very few teachers or administrators have experienced any gifted education training before entering the field, much training is needed while teachers are "in-service." That brings us to the really good news: once teachers learn how to challenge their gifted students in ways that do not result in unmanageable burdens, joy and excitement abound. I often hear teachers say things like, "I wish I had known about these things earlier in my career" or "I just can't wait to get back to my students to try some of these

- continued on next page

Road

continued

things with them." I've even heard the second comment during summer training, when one wouldn't expect teachers to be anxious for school to start! The training I do contains several sections which are all designed to make appropriate interventions for gifted students totally "teacher friendly."

I begin by showing teachers that it's okay to differentiate for gifted students because they are as divergent from "normal or average" as are kids in special education. We talk about all the help and funding that are easily accessible for making differentiation available to students who have trouble learning. Teachers come to understand that accommodations for gifted students must be made for the same reason and that what may be appropriate for age peers is simply not appropriate for the gifted in their areas of strength. This is not because they're "special," not because they're tomorrow's leaders and not because their parents know how to make wheels squeak. It's simply because of their difference in readiness for learning. I've seen teachers and administrators alike experience the proverbial "Aha!" as this understanding occurs.

From there, we go on to discuss the fact that traditional identification methods are far from perfect. Sometimes, they identify gifted students, and sometimes they identify high achievers as gifted. Sometimes they miss the highly gifted, whose deficiencies appear to give silent testimony that giftedness can not possibly co-exist in a particular youngster. Therefore, from my perspective, the only fair way to identify gifted kids in any classroom is to let the gifted identify themselves by their actual learning behaviors.

The simple method that allows this to happen is for the teacher to describe, to the entire class, the manner in which students are invited to demonstrate that they either already know the upcoming content or can learn it in a much shorter time than will be needed by their classmates. At that point, any students who can demonstrate the ability to meet the expected criteria are indeed eligible for differentiation activities pertaining to the specifically designated content. What always happens is that some gifted kids aren't able to meet the criteria, some kids meet it who aren't usually perceived as gifted and everyone wins.

In teaching teachers, it's very important to allow adequate time during the training workshops for them to plan some of the actual activities they'll offer their students. With that in mind, I suggest that the teachers, working in job-alike groups, plan learning activities to increase the interest, meaningfulness and relevancy of the work for all students. When all students perceive their work as exciting, there's little or no resentment toward kids who are doing the differentiated activities.

A matter of intense concern is always classroom management. In order to try something different with their students, teachers need to know that the technique will flow smoothly in the classroom and will be relatively easy to manage. I spend considerable time demonstrating methods that help students understand exactly what they're supposed to do on a given day in class. Methods are demonstrated to help teachers keep records of which students need specific options on any given day. We discuss ways to help students improve their own organizational skills and take more responsibility for managing their independent working time. I demonstrate ways in which teachers can spend time with those students who are working on differentiated tasks, so that those students don't feel abandoned by the teacher and so they know help will be available for them when they need it. Behavioral guidelines for students working more independently are suggested, and we talk about the consequences for students who are unable to follow those guidelines. By the time teachers leave the workshop, they have concrete plans about which strategies they'll use and how they'll manage those options.

Finally, we talk about ways in which teachers can continue to support each other as they work to implement compacting and differentiation opportunities. Lasting change is more likely to happen when teachers have peer support during the entire implementation process. I strongly encourage the formation of school-based study groups, led by teachers in the workshop and open to all interested teachers in their buildings. Meeting together at regular intervals during the school year, teachers select methods to try, help each other with implementation and have group discussions on the pros and cons of each method. Without such an in-school support system,

- continued on next page

Road

continued

teachers who attempt to use methods they've learned in a workshop are likely to abandon that method as soon as they encounter barriers to success. With the study group members available to each other, it's likely that they'll work out glitches as they occur. Therefore, the likelihood of lasting, effective changes coming from teacher-training methods is also greatly enhanced.

In Conclusion

I've described the barriers that may prevent some teachers from being able to meet the learning needs of gifted students, as well as suggested several methods that might empower teachers to be more effective in challenging their gifted students on a daily basis. It's important to note that administrative support is critical if teachers are to receive the training they so desperately need in this area of their teaching. It's also important to remember that when parents of gifted students are hesitant to make known their concerns regarding the ability of teachers to provide appropriately for their children in all classes, the issue does not appear critical to administration or Board of Education groups. This also holds true for legislation on behalf of gifted students. The monies expended for students with learning difficulties exceed those spent on behalf of gifted students by staggering amounts. In the United States, national legislation is currently pending which would allot $1,000,000 for the education of gifted students in each of the 50 states. I encourage each parent and teacher to become knowledgeable about that legislation and the legislative efforts on behalf of gifted kids in your state. Become active in advocating for what these children need, which is exactly the same as what all other kids need in school. All students are entitled to be learning at their personal challenge level in all areas of learning, and the gifted deserve no less than other students get. Let's be sure we assist the attainment of that goal in any way we can. Our kids are counting on us. ❖

ANNOUNCEMENT

SUSAN WINEBRENNER

TEACHING GIFTED KIDS &
KIDS WITH LEARNING DIFFICULTIES
IN THE REGULAR CLASSROOM

OCTOBER 1-2, 1999
ARVADA CENTER FOR THE ARTS
COLORADO
708-798-9096

Dear Fellow Teachers:

In the classroom we say over and over that there's not enough time to do what we really want. But it's a lie. Listen to Mary Rose O'Reilley's reflections on this:

Sister Teresa was past her prime, getting eccentric. She was supposed to teach us Art History from Prehistory to the Present. We spent weeks on primitive cave paintings, then stalled on Giotto. Day after day, we sat in a dark classroom, looking at the confusion of spears and torches in "The Kiss of Judas" — until we knew it. Knew it. Later, lurking morosely in the positivist pews of Johns Hopkins University, where I read the Gospel of John in first year Greek, it was Giotto that rose before my eyes. That confusion of spears, and that alone, opened the Greek text to me. Now I knew two things.

This nun having done her work, art stops short for me in the early fourtheenth century. Somewhere, filed in some Platonic syllabus, lie Raphael's fat madonnas, but they are not for me: I do not know them. I suppose that is a loss. But I know two things.

So you see, whether or not you have enough time depends on what your conception of learning is.

Jane

From the chapter "Postcards From the Edge."
Tompkins, J. T. (1996). A Life in School, What the Teacher Learned, p. 149. Reading, MA: Perseus Books.

BEST COPY AVAILABLE

Connecting with Gifted Students in Easy, Meaningful Ways

Tracy J. Stegall

People in the business world, people *not* in the world of education, don't seem to ever quite get a handle on a typical teaching day or a typical teaching life. What they don't understand is that I am planning all the time — during my 45 minute planning period, certainly, but also at 5:00 a.m. as I run trails in the dark, in the shower, over dinner with friends, at night before I fall asleep, as well as all summer long (those months most people believe teachers truly have off). That's just the planning. I'm also constantly assessing student progress — during class, during my planning period, for hours after school each evening, throughout the majority of my weekends. My typical day involves hundreds, if not thousands, of interactions with the 100 students on my 6th grade team — bantering in the hallway, disciplining difficult students, full-class instruction and individual student conferencing. There are some days when I am in constant contact with students for six hours straight, with barely time for a break. Add to this extra-curricular activities, teacher duties and committee meetings, and those bags under my and many other teachers' eyes become more understandable.

Life as a teacher is crazy, and making individual connections with students is difficult at best. But, even through all the craziness, I believe that in order for their experiences in our classrooms to be meaningful, gifted students must feel like their teachers understand them and truly connect with them, one-on-one. This is so for students in general, but I believe it is monumentally true for the gifted ones in particular. More than any certain field trip, more than any special program, more than any extension or project or mentor or enrichment activity we can provide for them, it's that connection that resonates.

Reassessing Why We Teach

Where do we spend our time? Where do we put our energy? Ideally, our philosophy as teachers (e.g. why we teach, what is important to us pedagogically) should match where we spend our time and put our energy. But does it? I know that I teach because a) I love kids, b) I love language and how it can be used to express ideas, c) I love interacting with people and d) I want to feel like I'm making a difference in the world with my job. Given that, the time I spend as a teacher should reflect these passions. I should be connecting with students, in groups and one-on-one; I should be doing all I can to make the time I spend with them as meaningful as possible. This philosophy becomes even more important at the middle level, especially since gifted students are often yearning for more in-depth conversation, individual experiences with mentors, interactions which feel meaningful, rich and deep. These sorts of interactions are not things we can write in our planning books; we must take advantage of and nurture the connections when they arise.

***Tracy Stegall** has taught middle school students in Colorado for eight years. Her passion is teaching and connecting with students.*

The Interpersonal Connections

All of my students, but especially my gifted students, know I care about them in a genuine, honest way, and not in the superficial way many teachers seem to. How? There are three things I try to

- continued on next page

Connecting

continued

do every single day, things which lead to the bonds gifted students seem so ardently to desire.

When a gifted student has a story for me, I really listen. Gifted students generally do not tell stories which lack meaning or substance, as do many students of more average ability. Instead, their stories require engagement, true listening. Covey (1989) discusses the five levels of listening. When students speak to us, we generally listen at one of four levels:

Ignoring: not listening at all
Pretending: "Yeah, uh-huh, right."
Selective: hearing certain parts of the conversation
Attentive: paying attention and focusing energy on the words being said

Do these sound familiar? I think most teachers practice the pretending and selective types, and for good reason! During one 45-minute class period of the day, I might have 60 different interactions with students — when they're asking me questions, I'm answering questions, they're procrastinating and/or wanting to tell me stories about their lives. It is difficult at best to stay at the attentive level, much less move into the fifth level, the Empathic, listening for the purpose of understanding. While I would encourage listening to all students in meaningful ways, I feel it's crucial to listen to gifted students at the empathic level.

According to Covey (1989), this kind of listening forces us to get out of our own and into our students' frames of reference. In doing this, we see the world as they do and can perhaps truly begin to understand how our gifted students feel. It's important here to note the difference between empathy and sympathy. Showing sympathy indicates that you agree with the students, that you believe their words to be true; and sympathy may well be the appropriate response to many student stories. But sympathy does not inherently include the understanding piece that empathy does, and the crux of empathic listening is that you fully, deeply, understand the other person. This kind of listening takes time, but the amount is small compared to the huge rewards in doing so. And, I'd guess that the time difference between pretending and empathic listening is actually only seconds. Take a deep breath, put down your pen, and listen to your students. Understand who they are as people and what is important to them.

Doing Your Duty: Even When It's Not Yours to Do

During passing period, even on the days I don't have duty, I go out into the hallway to interact with students. I say Hey. I banter with them. They know they can come talk to me if they want. But, you may say, I have to prepare for the next class. Sure, sometimes you do. But not every day, and, again, why are you there? Why are you teaching? These two or three minutes also allow gifted students to see you in a social capacity, as a colleague, a confidant, a model. This becomes especially important when you have gifted students who seem socially inept and uncomfortable. Be available during those crucial social times, be someone they can talk to when everyone else is talking to others. And, again at the middle level, the action that happens in hallway also allows you to be connected to that all-important hormonal heartbeat of the school.

The Me Behind the Teacher: Stupid Stegall Stories

I tell students about myself. Daily. Stories. I call them Stupid Stegall Stories. They're generally factoids about my life, things that have happened to me from the embarrassing or bizarre realm. These stories do wonders when making connections with students, and, significantly, in making connections with the gifted ones. As I tell these stories, gifted students get the sense that I am not only an intelligent, well read, well spoken role model but that I have a very human side which quite often makes mistakes. This view is monumentally important for students to see, and in the connection realm, it's incredibly useful. Ryan, one of my gifted students, is an uncommonly soft-spoken and serious young man. He speaks fluent Japanese, is a 6th grader in an advanced 8th grade math class and understands the advanced humor in the most abstract Far Side cartoons. In fact, he understands most humor, but I very rarely see him smile. One day, I told a Stupid Stegall Story about the time I borrowed my parents motor home and as I was emptying the sewage tank at a waste station, the hose was not entirely connected and, well... Let's just say I had to hose my boots down afterward. When I tell this story in class, it's very involved and drawn out, and by the time we get to the end and I have all kinds of "stuff" all over my boots, they're roaring. Ryan roared, too, when I told it in his class. Later that year, on a field trip hike, he asked in his soft-spoken way, "Ms. Stegall... are those the boots?" They were. With that story, I'd made an impression on him and connected with him as a person. Yes, I take five minutes from my precious class time to tell these stories. And every second is worth it!

- continued on next page

Connecting

continued

Three Minutes is a Lifetime: Happy Notes and Postcards
I have to be honest, and will use the language of my students to do so: I am, like, SO over dealing with the problem students all the time! *It's such a frustrating and time consuming thing we do....* Johnny, please sit down. Sarah, please stop talking and stay on task. Jerry, do you have your assignment? Johnny, I SAID SIT DOWN. Sarah, are you finished? So much of our teacher time is spent dealing with the problem students. I find it re-energizing to spend time doing a bit extra for my gifted students. Just think: what if you took three minutes and wrote to your Ryan, "Ryan, I really appreciate your patience in this class. I know it's a struggle sometimes, but I really like how you are a quiet leader and set a good example for other students." Or, "Anne, the poem you wrote in your journal was just incredible! The imagery of the mountain against the stark city skyline was powerful. Do you have any interest in getting it published? Let me know!" And then, if you taped a piece of candy onto the note and quietly set it on the student's desk? My prediction is that you would make those students' days. The same thing goes for writing a postcard home. I keep postcards and stamps in my desk. I take them to boring meetings and I write notes to students. I find these work especially well with underachieving gifted students. A personal note can jump-start a student's motivation, if for no other reason than the awareness of one-on-one connection. The results are often incredible.

Students and Pedagogy: Using Time in Meaningful Ways
Another area in which teachers can soar in connecting with gifted students roots itself in pedagogy, *how* we teach what we teach. The content piece of connection is easy — find and create more challenging material. But, it's this finding and creating that becomes a time-eating monster. Instead of planning for the middle-of-the-road student and then modifying for both the special-education end and the gifted-and-talented end, why not plan for the upper 15% from the very beginning? That way, the major modifying needs to happen only on one end.

• Differentiating Instruction
I find that if I differentiate my plans and, subsequently, my instructional strategies, the work is much less than if I have to think about modifying after the plans have been made. Tomlinson (1997) asserts that concept-based instruction is the key to differentiation in the classroom. If we start with a concept (such as conflict or freedom), we can then move into topics (wars, revolutions) and then into specific content examples (Civil War, French Revolution). Beginning with the concept, we allow students multiple options and avenues of study and increase the possibility of immediate relevancy of the material covered.

• Assessment-Driven Instruction
One of my latest teaching successes roots itself in the idea of using rubrics to assess student writing. My district held an Assessment Academy in the push to integrate the state content standards into the classroom. A good portion of this academy was how to create a true rubric — not a grade sheet, but a rubric. My current working definition is a clearly defined expectation sheet which delineates how to achieve the expectations a teacher has for an assignment. In the creation of these rubrics, I have discovered that the clearer I am about what I want from students, the easier it is for them to rise to the expectation of excellence I have for the top grade. Generally, the rubrics I've created are based on a five point scale. Amy, one of my gifted students, has a substantial need for boundaries; she wants to know EXACTLY what she needs to do, and then she'll do it. She has the desire to succeed, and she also knows that there's an element of playing by the rules in the game called school. If the rules change midstream, she becomes quite frustrated; understandably so. In this kind of assessment-driven instruction, I let students in on the rules from the very beginning. I give them the rubric before we even start a piece of writing, and I go over it. In doing so, students get a better idea of what exactly I expect from them and how to achieve success. This instructional strategy works especially well for the perfectionistic gifted student, with the clear boundaries allowing them to work a moderate amount instead of spending hours and hours on a 30 minute assignment.

Individualizing Education: Building in One-on-One Time
Regardless of how teachers set it up, one-on-one time is an invaluable commodity in the classroom. Whether you teach a curricular area which lends itself to weekly conferences (such as language arts or reading) or set up activities allowing you to rotate and spend time with individual students (science labs), whatever you do towards this end will help in connecting with gifted students. I ask myself, How can I personalize this lesson for Anne? What does she need as an individual? This may mean encouraging her to extend her thinking and project past the classroom requirements through a

- continued on next page

Connecting

continued

five-minute conference, or having a stack of novels ready for a student who plows through books like chips in the lunchroom, or conferencing with students about books they're reading or keeping close track of students' interests and bringing in related articles. Anything we can do as classroom teachers to make that one-on-one connection will make a difference.

The Classroom Library and Read-Alouds: Connections & Community

Two parts of my own classroom which help in establishing immediate connections are my extensive classroom library and my strong belief in read-alouds as excellent community builders. The former allows me to have constant conversations with students about their books, suggest new ones and keep track of the kinds of books they like to read through my check-out system. Last year, I had Robert in class; he was the class clown, always cutting up and making others laugh. An excellent reader, he was reading at the 10th grade level as a 6th grader. He and I made an incredibly meaningful connection when he was in my class, and all the best conversations we had were when we were sitting cross-legged in front of my shelves of books. I'd pull books off the shelf and ask, Have you read this one? or Try this one.... I became something of a lifeline for Robert through his reading, I think, as his family experienced tragic losses during the school year. This year, Robert isn't in any of my classes, but every two weeks or so, 15 minutes before the morning bell, I'll be doing work at my desk, look up and there's Robert. Smiling, bright eyed and ready for another book. I keep a Robert Pile behind my desk for those visits.

The connection teachers can have with gifted students through literature is profound. Regardless of your curricular area, start a classroom library. I would argue that even social studies and science teachers would benefit from a growing classroom library of young adult fiction.

Read-alouds are another excellent avenue to connection and to bringing *all* students in the class together as a community. Teaching middle school, I am struck daily by the lack of comfort my students have. They're uncomfortable with themselves and other people, uncomfortable with their enemies and their friends. They are uncertain about their own personalities, and they're constantly trying on different persona the way they try on new outfits in department store dressing rooms. This feeling of uncertainty can be heightened in gifted students because they have to combine the insecurities inherent in adolescence with the intellectual differences many of them already feel. One of my classroom goals is to have *all* students feel that the room is a safe haven and that they're connected to others through shared experiences. The key here is, again, the connection piece — so often our gifted students feel disconnected. We need to create an all-class connection to combat this problem, and I believe read-alouds build this feeling immediately. I have students gather round me in the back of the room where they sit on the floor, lounge on pillows, sit in chairs, lie under the table, whatever they want. Their only job during read-aloud is to listen. And I read. This is such an important part of our classroom experience that I even practice my read-alouds. I develop new and unique voices for each character, and I choose books that make students really think and want to talk about what's going on. Some of my favorites for early middle years are Lois Lowry's *The Giver*, J.K. Rowling's *Harry Potter and the Sorcerors Stone*, William Sleator's *Interstellar Pig*, Robert C. O'Brien's *Mrs. Frisby and the Rats of NIMH* and anything by Roald Dahl. When I first started read-alouds, I tended to skip days of reading because of other activities or scheduling conflicts. What I didn't realize is that it's the regularity that builds the community, not just the read-aloud itself.

Final Thoughts

What is vastly rewarding for me is to realize that the things I do not only work well for connecting with gifted students but they're effective in connecting with all students. They help to remedy the falling-through-the-cracks dilemma so many of us face with large class sizes and teaching loads. They can help us in recognizing that all of our students are important individual human beings who deserve to be listened to, who will benefit from discussions and who may well rise to the occasion and succeed because they know there's another human being standing behind them, a teacher, rooting for them all the way. ❖

References

Atwell, N. (1987). In the middle: Writing, reading, and learning with adolescents. Portsmouth: Heinemann.

Covey, S. R. (1989). The seven habits of highly effective people: Restoring the character ethic. New York: Simon and Schuster.

Rief, L. (1992). Seeking diversity: Language arts with adolescents. Portsmouth: Heinemann.

Tomlinson, C. A. (1997). How to differentiate. University of Virginia.

Carousel

Hope Sargeant

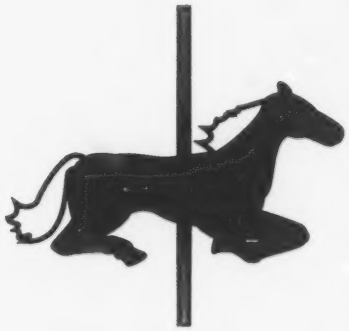
When Mama Bears Go To School

Anyone can tell you, bears do not belong in school. This is not a joke. Several years ago, in our rural suburb, a young bear with a bad sense of direction and a taste for civilized life, wandered our streets. He sampled from dumpsters and bird feeders, made cameo appearances in people's yards and along main streets. Finally, he wandered onto the grounds of the elementary school. The principal called in all the children and locked the doors. Environmentalists and teams of dogs tracked the bear to a park, where he was trapped and then transported home.

Amusing as the incident is now, everyone knew the bear might have been dangerous. The principal was lauded for his coolness and quick thinking, for the way he protected the children.

But what happens when the bear who wanders onto school property wears a dress, or a shirt and tie?

We parents of gifted children sometimes talk about ourselves as "Mama Bears," as fiercely devoted to our young as the literal bear is to her cubs. Some unknown force propels us to school to get what our child needs; despite butterfly stomachs and sleepless nights, it turns our timidity to toughness. Often, though, like the real bear, we feel pushed away by the school, closed off.



Sometimes we actually are. We attend meetings where decisions have already been finalized, or we learn that options have been ruled out without our opinion. Sometimes, confrontations seem too personal. As an experienced Mama Bear, I've been hardened by the undercurrent of "pushy parent" that talk of accelerated programs or other accommodations seems to unleash. This year, the undercurrent turned hazardous. But it was so subtle it took weeks before I realized the attack was being made directly on me, as a mother.

Nothing was said overtly; rather, the indictment seeped out of teacher comments about homework, my volunteer work in the school, what I did with my child in our spare time. The meaning was clear: I was too involved, too attached; I overshadowed my child, challenged the teacher's authority and role, got in the way of important aspects of my daughter's school experience as a result. The unspoken demand seemed to be: why wouldn't I just *back off*?

In this charged environment, we took advocacy to new levels. My husband and I battled hidden criticisms along with polite rejection of our curriculum requests. Eventually, our advocacy efforts ground to a halt. Our child's misery level increased as the pleasantly worded attacks continued. The fall months left me

- continued on next page

***Hope Sargeant**, an education consultant, is a freelance writer in the field of education and parent of a gifted child. She lives in New York's Hudson River Valley.*

weary beyond belief, and I couldn t figure out why. Nothing had happened which I could document—or had it? We hadn t crossed any lines—or had we?

When I think of School, a clear image comes to mind: buildings, grounds, people. But there is something more, a powerful infrastructure which we rarely see, and therefore rarely think about, woven from the complex beliefs and attitudes upon which schools are founded. To most people who work at a school, this infrastructure is inseparable from what they teach, who they are professionally and even the way they see and work with children.

This year, I came to understand that my husband and I simply don't see things this way. It's no wonder we felt attacked; we had been. And we'd provoked it ourselves, with our attitudes and our beliefs about the way we see our gifted child, how we see schools, even the kinds of working relationships we expect to have with educators.

Seeing the Child

Horace Mann said, "Men are cast-iron, but children are wax," (Cremin, 1976). What a delightfully evocative image of a child: warm, lightly scented and soft to the touch, and most important, highly malleable.

I wonder how Mann's vision of children might have been affected by an afternoon at my house, perhaps the day when my then-kindergartner informed me that coloring was "stupid." When I pointed out that the directions on her homework included coloring, she took a pencil, blacked in the picture with several vehement strokes, and announced grimly, "There. It's colored."

Malleable? I don t think so. My view of children is slightly different than Mann's. But other versions of this romantic image of children abound: the child as an empty vessel, the child as a blank slate. In each of these versions, the teacher's job is to fill the child, or inscribe upon him, whatever knowledge the teacher deems appropriate. With the adult in control, the child is safe. And the child can be "formed."

I hear echoes of this perspective every time a teacher talks about "age-appropriate instruction." According to this way of seeing, children develop in roughly the same ways, including intellectually. Therefore, there are appropriate times for incorporating certain topics, levels of abstraction or techniques. These appropriate times are determined by chronological age. The younger the child, the greater the focus on play and socialization.

The message conveyed is that "the intellect is not for children," (Howley, et al., 1995). Examples of this viewpoint exist throughout schools. How many of us have heard that our children may be decoding a book, but they certainly aren't understanding it? Heard teachers explain that a subject like algebra is too abstract for children younger than a certain age? At the school book fair this year, I watched my daughter's teacher tell her the math-related book she was looking at was for children in older grades. Never mind that those grades are exactly the level my daughter was working on in her distance learning program.

I am reminded of commercials where the announcer intones, "Don't try this at home."

But that's just the issue: we do, all the time. In our family, reasoning, discussion of ideas, learning new things, are all part of the fabric of our lives together. We parents convey the pleasures of a disciplined and knowledgeable mind in everything we do. One's intellect is an essential part of one's identity, to be developed in concert with feelings, artistic sensibilities, deeply felt beliefs.

If a child reads at age 3, wonderful. If another discovers negative numbers at age 4, and wants to add them, terrific. We can't limit how children's intellects develop or demand that they push them aside to focus on other aspects of themselves, perhaps on some more valued by society. In fact, we parents of gifted children learn quickly that if we can t keep up with what our children want to know or do, we'd best get out of the way. As a result, I suspect our views of childhood differ radically from the views of most educators.

Visions of School

Cremin (1976) wrote, "Every family has a curriculum, which it teaches deliberately over time." While Cremin believed that there are many educational forces in a child's life, he saw the family as

- *continued on next page*

Carousel

continued

the mediating influence. I suspect that what we model at home about learning and our expectations of school are in direct conflict with how the staff at our child's school view its purpose and ultimate influence.

One event frames our different perspectives perfectly. My daughter came home this past spring and announced she'd had a bad day. She'd been asked to participate in a class from which she was usually exempt because of her radical acceleration in that subject. She was required to participate in a group activity, having to do with learning material she'd covered years before. "How many times am I going to have to learn what I already know?" she wailed.

In response, we crafted and sent a careful note to the teacher, and the next day my husband received a call from the principal. The teacher, according to the principal, felt that the level of the curriculum was not as important as the fact that our child had taken a leadership role in a group activity, emphasizing that she had performed beautifully. From the teacher's perspective, we were objecting to one of the most basic skills in the school curriculum, but what we saw was neglect of our child's intellectual and emotional needs and the suffering that caused.

What we overlooked is that schools exist in order to create and maintain a common culture, and that educators make curricular decisions with this culture in mind. Work plays a central role in our cultural and personal identities today. On that day, the teacher was simply doing what teachers and schools have done for decades: preparing children to enter the world of work (Grumet, 1988).

My daughter isn't the only gifted child coming face to face with a school culture and curriculum that are at odds with her family's. Asked recently what she thought the purpose of her school was, a young gifted friend of mine, a teen, confessed, with controlled disgust, "I honestly have no idea. I used to think it was so that kids could learn, but nobody wants to do that. There's not really any learning taking place."

Howley, et al., (1995) would agree with my young friend and me. These researchers see that today the intellect is not only not for the child, it's not for anybody. Most students go to school not to learn, but to get credentials to get better jobs. Within this construct, the drudgery of many school tasks sets the stage for an adult life filled with work. That teachers, frequently women, reinforce the value of student compliance, in school systems where decision-makers are frequently men, lends an interesting dimension to the idea of training students for the world of work (Grumet, 1988).

The link today between "success" and a "good education" also trickles into our children's experiences in the name of school reform. In order to make sure each student gets an equal shot at the American Dream, today's schools work to provide each individual with the same education. The dedication to sameness in the name of equality delivers a powerful, if unintentional, message: Same is good, different is bad, in everything from educational options to how smart one is willing to seem.

And where is the family in this? Not present, and generally, not welcome. According to Grumet (1988), parents are excluded from curricular decisions at school because they'll drain energy from the creation of the common culture.

Those of us who venture into schools with our family curricula in mind need to be prepared for the reaction we will likely find.

Working with Educators

Early this past school year, I listened to a mother from my daughter's class describe how she told her husband to behave at a teacher conference. "You are there to listen," she told him. "This is *her* show [the teacher's], not yours."

I found myself thinking that parents of gifted children visit schools completely uninterested in whose show it is. This flies in the face of traditional views of teaching and caring for children. Traditionally, the mother was the caregiver to the child. When the child went to school, this responsibility was transferred to the (usually female) teacher, who was to take the child from the comfort of home and prepare him for the grown-up (usually male) world of work (Grumet, 1988).

- continued on next page

Carousel

continued

Even on the cusp of the millennium, these old ghosts won't rest. Mothers and fathers are still expected to turn over their children to the teacher at the start of the year, and usually do so. In contrast, parents of gifted children relinquish neither control nor responsibility. We do research. We make proposals, using the research we've done to support our requests. We expect to be recognized as team members, with at least equal say in program planning. Needless to say, many educators find themselves working hard to keep — or put — parents of their gifted students in place.

While Cremin (1976) talked about the parent (in particular, the mother) as a "natural emissary" from the family to the school, I would suggest that comfortable diplomatic relations are possible only for as long as a Mama Bear sticks to the culturally defined script of appropriately distant parenting. The more a parent expresses divergent views and beliefs, the more likely it is that she will become a direct target. That's because the teacher's job is to educate not only the child, but the family, not only in the 3 Rs, but in the customs society would prefer to maintain.

When I suggested that I had concerns about the appropriateness of curriculum content and level for my child, I was greeted not as a partner, but as a threat. I had strayed onto territory the teacher felt was hers; she felt attacked. And as a result of her perceiving my parenting and advocacy as an attack, I think she felt entitled to respond with an attack on my mothering.

Why was I attacked? In short, I believe, because my comments ran counter to the teacher's deepest beliefs about education, living and working. I threatened her views of children, patriotism and the identity of shared culture. I wasn't willing to ignore our daughter's misery when what she needed was so clear and attainable. I simply won't hand over my child in that way.

Bears in Dresses: What We Can Do

Over a hundred years ago, John Dewey wrote that "education is the fundamental method of social progress and reform," (Cremin, 1976).

I still believe Dewey's words are true. I also believe the educational system gets created and perpetuated by all of us: educators, parents, students, legislators, citizens. With our silence we consent to attitudes that become the foundations of the newest schools; we perpetuate the old ways and attitudes with our unquestioning acceptance of the roles that are just waiting for us to step into them.

Some months ago, I was railing about the state of affairs in education to a friend who educates teachers at a major university. She laughed softly and said, "What makes you think *we* can change anything in this crazy system?" And I wonder, if it is so crazy for professionals in the system, how can anybody outside it even hope to make change? I've found several answers for myself.

First, I have come to see how deeply I believe that the common culture needs to embrace difference. Not whitewash the same behavior and name it Diversity, but truly honor and respect difference. In my mind, this will only happen when those of us who are different, and those of us who can, choose to exist within society's systems while being different, demanding that our unique needs be seen as valid and asking that they be met.

Not all can do this, and they shouldn't. But those of us who are able may find guidance in the writings of Martin (1976), in which

- *continued on next page*

she describes the process of dealing with the hidden curricula in education as similar to the consciousness-raising process of the women s movement: name the hidden attitude or injustice and attempt to incorporate discussion about it into the very system that's creating the attitude. Through open discussion, we can try to create alternatives.

There is already an age-old model for this kind of truth-telling. Ask children in any classroom — they will tell you who the smartest kids are, whom the work is designed to challenge, how fair the work is. One spring evening I got a call from the mother of a very bright boy in my child's class. He had struggled with the homework assignment, and over the course of the evening, as he'd worked on it, he told her he was sure my daughter had coasted through it. If I didn't mind, she just wanted to check out his perspective. We had a pleasant chat. This led the mother to seek some changes at school, which rippled positively to my daughter. Maybe we adults can take our lead from children, who don't seem to be afraid of the truth about each other's differences.

There are other things we can do.

We can seek to support educators who would like to make schools places of intellectual development rather than places to reinforce popular cultural and economic trends and identities.

We can talk openly with our children about why some teachers and administrators get so angry with us, and vice versa. We can make jokes about attitudes that sometimes feel so oppressive and encourage our children to explore what it means to be true to themselves. We can consciously celebrate the differences between our families and the common culture, and be stronger for our differences.

We can know that simply by being ourselves, we are doing the most courageous of work. Because every time we enter a school, whether we intend to or not, we challenge deeply held beliefs.

Most importantly, we can remember that when we feel attacked, it's likely that we are being chased back over the line by those who want to keep families and schools separate, and Mama Bears in their places — far back into the forests, with a lovely, distant view of the school.

When that happens, there is only one thing to be done. Mama Bears, get our your prettiest dresses. Papa Bears, shine your shoes. Dust off your best manners, your sharpest thinking, your most sparkling smile. World, get ready, because Mama and Papa Bear are going to school. ❖

References

Cremin, L.A. (1976). Public education. New York: Basic Books.

Grumet, M. R. (1988.) Bitter Milk: Women and teaching. Amherst: University of Massachusetts Press.

Howley, C.B., Howley, A. & Pendarvis, E.D. (1995). Out of our minds: Anti-intellectualism and talent development in American schooling. New York: Teachers College Press.

Martin, J.R. (1994) What should we do with a hidden curriculum when we find one? In J.R. Martin, Changing the educational landscape. New York: Routledge.

Surfing the Net

Sandra Berger

Teachers Teaching Teachers Through Technology

Once upon a time, computer-based instruction was quite different from what it is today. Material was organized in a linear-sequential manner—a step-by-step progression of information reflecting the author's structure preferences—but not necessarily the most effective mode for those learning. Learners were limited in formulating structures that made their tasks meaningful. This format is still the norm in some places and, unfortunately, does not take advantage of available technology.

The use of hypertext, which organizes information according to particular elements, allows learners to control their search for knowledge. This process permits students to have access to information in ways that are consistent with their individual learning styles and enables them to structure related concepts and forge knowledge links in highly personal ways. Hypertext facilitates a self-directed approach to learning that can actively engage the learner and make the art of discovery one of the learning objectives. Why should we do this? Because research in cognition tells us that active engagement in finding and solving a problem is one of the keys to critical thinking and learning...and because the world of tomorrow is not entirely known.

In addition to removing time and geography as barriers to learning, technology has also expanded classroom walls. Students can "travel to" locations half a world away or correspond with others in another country and receive responses immediately. Translation software even makes it possible to converse with someone who doesn't speak the same language. Widely separated students can become familiar with each other's culture through a meaningful process that unfolds over time and provides insight into daily living experiences.

A 1998 survey by the International Society for Technology in Education shows that very few teachers have been trained at the undergraduate level to pursue a body of knowledge in ways that take advantage of both the new technologies and individual student learning styles. The National Center for Education Statistics confirmed the lack of training in their recently published report on teacher preparation. [See *End Note* for more information on these studies.] Therefore, we are fortunate that today the Internet hosts a wide variety of Web sites where teachers can learn. This column summarizes some of the most respectful and reliable sites. Respectful refers to Web sites that are sensitive to online learners with disabilities, diverse learning styles or cultural/linguistic differences. Reliable means Web sites that, barring any unforeseen Internet catastrophe, are here today and will be here tomorrow.

Are you ready? Let's go surfing. Many of the following sites are specifically about using technology; others make use of technology to establish networks and communication.

***Sandra Berger** is the Information Specialist for Gifted Education at the ERIC Clearinghouse on Disabilities and Gifted Education in Reston, Virginia. She is the author of College Planning for Gifted Students.*

- continued on next page

Technology

continued

TEACHERS TEACHING TEACHERS

21CT: 21st Century Teachers Network
www.21ct.org
The 21st Century Teachers Network (21CT) project is a nationwide initiative to empower educators through interconnection, allowing them to develop new skills using educational technology, share their expertise with other teachers and integrate new technologies in their teaching and learning activities. The 21CT Web site serves as a meeting place for an interactive online community that promotes group collaboration among teachers interested in educational technology. The site includes eight major sections: News, where educational news items are posted; Teacher to Teacher, which hosts "interest-specific message boards;" Event Central, a calendar of events; Library, containing research, lesson plans and much more; Contacts, a directory of network users; Favorite Places, an annotated collection of select links; Chapters, which provides information on local 21CT groups; and Network Highlights, a "what's new" section for the project. Registration (free) is required.

ENSIWeb
www.indiana.edu/~ensiweb
Funded by the National Science Foundation and hosted by Indiana University, ENSIWeb (Evolution and the Nature of Science Institutes) contains "a collection of classroom lessons to help biology teachers more effectively teach basic concepts in the areas of evolution and the nature of science." Developed and tested by biology teachers during nine years of summer institutes, the lessons are grouped under three topics: Nature of Science, Evolution and Origin of Life. Each lesson plan includes a synopsis, concepts, materials, time, teaching strategy, procedures and handouts in .pdf format. Some lessons are still under development.

Guidelines for Portfolio Assessment in Teaching English
www.w-angle.galil.k12.il/call/portfolio
This Israeli Web site opens with a definition of a portfolio as: "A purposeful collection of student work that exhibits the student's efforts, progress and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit and evidence of student self-reflection" (Paulson, F. L., et al., 1991. What makes a portfolio a portfolio? *Educational Leadership*, 48[5], 60-63.). The article then goes on to discuss elements of portfolio assessment: key characteristics, essential elements, implementing and assessing skills through portfolio. The comprehensive site includes Frequently Asked Questions (FAQs), bibliography and practical appendices such as samples and examples.

Key Elements to Successful Staff Development in Technology
www.u.arizona.edu/ic/imp.tech/sd.key.issues
Five elements, besides money, constantly reappear as essential for a successful program: align training with educational goals/instructional units; teachers teaching teachers; seeing it work in a successful classroom; short, on-going; small group training sessions; access and on-site support. Each element is briefly described.

The National Writing Project (NWP)
www.nwp.berkeley.edu
The NWP is a: "collaborative university/school staff development program to improve the teaching and learning of writing in the nation's classrooms." NWP sponsors a summer institute where teachers share ideas in a receptive, collaborative environment. Some friends who teach English at a magnet school attended a summer institute and returned at the end of six weeks feeling refreshed and full of new ideas for engaging students. There are about 160 affiliated programs, such as the Dakota Writing Project (DWP) *www.usd.edu/engl/DWP/index.* To find them, use any search engine and the search term "Writing Project."

PBS Teachersource: Mathline/ PBS Mathline
www.pbs.org/teachersource/math
Brought to us by the Public Broadcasting System (PBS), Mathline is both a project and a Web site. A wonderful resource for teachers, Math Concepts provides monthly activities that relate mathematical concepts to real-world situations. Health was the featured topic at the time of this writing. Previous topics included baseball, softball and Earth Day.

1999 Princeton-Rutgers Environmental Science Institute WWNFF Leadership Program for Teachers
www.woodrow.org/teachers/esi/1999/princeton
Princeton, Rutgers and the prestigious Woodrow Wilson National Fellowship Foundation have collaborated to provide secondary science teachers with an impressive selection of curricula and lesson plans in the fields of Biology, Chemistry, Environment, Mathematics and World History. In the science leadership institute, for example, teacher-participants and faculty process what they are learning in light of the science standards, how activities can be translated into local issues, how secondary students can engage in similar research projects and how, through inquiry-based science teaching, all students can achieve higher quality learning. Each teacher-participant will

- continued on next page

engage in a research project with a mentor. Teacher-participants must apply and are selected for this rich opportunity to improve their skills, especially in areas outside their expertise.

Spartacus Educational
www.spartacus.schoolnet.co.uk
A small educational publishing company formed by a group of teachers, Spartacus is committed to providing free resources for the Internet community—in addition to the publication of inexpensive teaching materials. This outstanding site is good evidence of Spartacus's commitment. History teachers, especially those with courses on 18th and 19th century Britain, will give this site "pride of place" in link lists for their students. The site currently contains seven major sections: Encyclopedia of British History: 1700-1900, Child Labour: 1750-1900, Parliamentary Reform: 1750-1900, The Peterloo Massacre, First World War Encyclopedia, Investigating the Vietnam War and Emancipation of Women: 1860-1920.

Tales From the Electronic Frontier
www.wested.org/tales
www.wested.org/tales/textonly/index
This short book, produced by WestEd, a "non-profit research, development and service agency dedicated to improving education and other opportunities for children, youth and adults," is composed of a series of nine teachers' stories about how they used the Internet to teach K-12 math and science. Stories include how 8th graders studied air quality issues using an old computer with a slow modem, how primary and middle school students are sharing ideas with college students in solving math problems and how a high school class studied earth science via the Internet. Also included are sidebars on teaching issues, as well as Internet tools and resources. The book is interesting in that it demonstrates how the Internet can be used as a teaching tool as well as a teaching resource.

T.H.E. Journal December 1998
www.thejournal.com/magazine/98/dec/feat05
A Director of Curriculum and a Coordinator of Gifted and Talented Programs describes what to do after the computers arrive and how to develop a T-4 plan—a model built on the premise that technology training can support a school's advancement toward technology integration using a team effort.

Training for the Whole School Family
www.nfie.org
The National Foundation for the Improvement of Education (NFIE) provides grants, training and mentoring on using telecommunications and multi-media technology. The program explores how technology can best be used to improve student achievement. 22 teams of public school teachers, staff, administrators and community leaders participate in a program funded by sales of Bill Gates' book, *The Road Ahead*. Additional grants for teachers are listed on the Web site.

WEBQUESTS and OTHER INTERNET PROJECTS
Creating Web-based Lessons
www.esc20.net/techserv/projects/default
This comprehensive Web site uses the work of Judi Harris and others. Harris was "on the Net" before I arrived about eight years ago, and her work was clearly presented (difficult to accomplish and find in pre-Web days), highly informative and very practical. Teachers will find this site very useful in learning how to integrate technology into a one–computer classroom.

What is a Webquest?
www.totacc.com/user/jornada/webquest
Do you know about WebQuests and how to create or find one? A WebQuest is "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the Internet." A WebQuest provides a way for teachers to integrate the Internet into the classroom. Each WebQuest presents defined objectives and specific links related to the topic under study. This Web site has links to known WebQuests and provides search terms to use while exploring. Need more information and a template?
www.edweb.sdsu.edu/webquest/webquest
www.edweb.sdsu.edu/EdWeb_Folder/courses/EDTEC596/About_WebQuests

wNetSchool
www.wnet.org/wnetschool
wNetSchool merges the resources of public television programs with Internet-based resources and lesson plans created by veteran teachers to provide an integrated tool for K-12 educators. Teachers who register (registration is free) can consult Web Experts, learn about selected software applications, refer to the Internet primer for basic information, read the monthly bulletin, browse a list of annotated links and search the National Teacher Training Institute for Math, Science and Technology's Lesson Plan Database. Other wNetSchool sections include Teacher Talk, which offers an online forum for teachers to discuss specific topics and Student Gallery, a profile of exemplary student projects.

- continued on next page

Technology

continued

What to Expect Your First Year of Teaching
www.ed.gov/pubs/FirstYear/index
This online publication, created by Amy DePaul of the United States Department of Education, Office of Educational Research and Improvement, is dedicated to the first-year teacher. The site manages to articulate the primary challenges and rewards of teaching in a clear and succinct way, using the words of the teachers themselves. New and veteran teachers respond to issues ranging from professional isolation, to differences in student ability, to the unexpected exhilaration of this demanding career. In addition, educators offer tips of their trade, speak to ways that administrators could facilitate their work with students and let universities and colleges know how teachers could be better prepared to enter the classroom.

sberger@inet.ed.gov

The ideas expressed in this article are the author's and do not not necessarily represent the views of the CEC or ERIC Clearinghouse on Disabilities and Gifted Education.

The URLS were accurate and working when last checked. The Internet is a dynamic place, and changes take place rapidly and without the server, the server might be temporarily down or the URL might have changed. Try again later or truncate the URL.

End Note

Will New Teachers Be Prepared to Teach in a Digital Age? A National Survey on Information Technology in Teacher Education
www.milkenexchange.org/research/iste_results
Milken Exchange on Education Technology
www.milkenexchange.org
To establish baseline data on the status of information technology (IT) in teacher training, the Milken Exchange on Education technology commissioned this report of a 1998 study conducted by the International Society for Technology in Education (ISTE). 416 teacher preparation programs representing about 90,000 graduates were surveyed by ISTE on their level of competence when using technology in the classroom. The results were less than ideal, finding that in general, the incorporation of IT tools into teaching and learning has not kept pace with the expansion of the technology infrastructure in the schools themselves. The researchers make recommendations to address this issue. There are a number of additional resources on Milken's Web site.

Teacher Quality: A Report on Teacher Preparation and Qualifications of Public School Teachers
www.nces.ed.gov/pubs99/1999080
This report, recently released by the National Center for Education Statistics (NCES), is based on a national survey which examined the issues of teacher preparation, qualifications and work environments. "Key findings are provided in three major areas: 1) preservice learning and teaching assignment, 2) continued learning and 3) supportive work environment." Users can read the full text online or download the report in .pdf format.

Click and Go -- Teacher Resources for Networking

AskERIC	*www.ericir.sunsite.syr.edu*
Classroom Connect	*www.classroom.net*
Educators Network	*www.educatorsnet.com*
Education Place	*www.eduplace.com*
Education World	*www.education-world.com*
Educast	*www.educast.com*
Eisenhower Natl. Clearinghouse	*www.carson.enc.org*
English as 2nd/Foreign Language	*www.polyglot.lss.wisc.edu/lss/lang/esl/esllink*
Knowledge Adventure	*www.knowledgeadventure.com*
Teachnet	*www.teachnet.org*
Teachers.net	*www.teachers.net*
Web 66	*www.web66.coled.umn.edu*

Notes From Home

Allegra Sanchez

Library Science

We've been spending a lot of time at the library lately. It is newly remodeled with several unexpected amenities: a gracefully curving, brass-railed, glass-balustered staircase; the latest in electronic equipment, microfiche, Internet computers, fax and copy machines; and a grey-green, glass-paned pyramidal skylight. On the first floor, in the center of a typical expanse of books, periodicals and videos, is my favorite spot—an unexpected oasis of large-leafed tropical foliage, comfortable chairs and couches and an unobstructed view past the second floor through to the skylight. It is most peaceful and relaxing, a good place to read, or think or simply wait while a family member peruses the computerized card catalog and reference books on the floor above.

I was doing just that the other day, waiting for Linda (16) and Miguel (13), watching the sun filter through the skylight to provide the greenery below with just the right amount of life-giving sunshine, and wondering if plant care was now a part of a degree in library science. Clarification came by way of a small sign hidden amongst the lush growth stating that the plants were provided and cared for by the staff at a local nursery and landscaping business. They, undoubtedly, knew exactly how much water and fertilizer to give the plants in order to maximize growth potential and complete the equation for optimum well-being.

The focus of my reverie changed when Linda appeared on the staircase followed closely by Miguel. My eyes followed the children down the stairs while the same sunlight that nurtured the plants fell softly around them. Dust motes floated lazily in the afternoon light as I admired their youthful grace and the latent energy I knew they were suppressing while in the quiet of the library. They smiled and waved in passing, on their way to the fiction and video sections.

As they walked away, it occurred to me that my children were not totally unlike the plants around me, which have certain specific requirements in order to grow properly. An adequate supply of nourishment, water, sunlight and care were obviously basic. But my children aren't green, leafy things content to grow slowly with minimal attention. They need more, much more, and while I'm now aware of those needs and able to supply them or, more often, show *them* how to meet those needs on their own, it wasn t always that way. It was something I had to learn.

Their needs have always been different, different from each other and different from those of their friends. They've found ways to let me know it even when they themselves weren't sure what *exactly* that may have been. These two children, both highly gifted and both unique, have complex educational, intellectual and social needs that must be met. Miguel, the global one, is the quintessential extrovert with many friends trailing after him. Linda, the artis-

- continued on next page

***Allegra Sanchez** is a writer, volunteer worker and homeschooling parent of two gifted children. She and her family live in Texas.*

Notes

continued

tic one, prefers her own quiet company or that of one special friend. She spends hours at a time on an art project, reading or writing one of her yet-to-be-published stories. Miguel loves to travel, especially on his own, and, invariably, he comes back with new-found wisdom and having actually grown taller. Linda would rather stay at home, exploring every nook, cranny and facet of her immediate environment, learning how and why things work the way they do.

In the past, whenever Miguel was lacking direction or had an unnamed and unfulfilled intellectual or social need, he'd become most unpleasant, snarling and sniping at everyone in the family, balking at chores, anger practically visible and seeping from every pore. Linda's mode of expression under the same circumstances was completely the opposite. She internalized everything and would become morose for days on end. The catalyst for Miguel's behavior was usually inactivity, but for Linda it was overstimulation.

How could any institution with a one-size-fits-all curriculum possibly satisfy the needs of two such different children? It couldn't, and that's what led us to homeschooling. But to undo or reshape such behaviors, it wasn't enough to just sit them down with books, pencils and paper; these behaviors stayed with the children even when they came home to school.

Linda and Miguel weren't the only ones who had learning to do; I had to learn how to meet their needs, how to fertilize and properly water my children's intellects in order to complete that equation for optimum growth and well-being. Unfortunately, the few "teach the teacher" type classes I'd had during my lifetime weren't adequate for meeting the challenge of schooling my own two children. I realized I needed some reference materials, preferably some to add to our home library, so I visited a favorite spot on the World Wide Web, a discount bookstore. My search for "gifted education" brought up 592 books. That didn t seem like an overabundance, considering that a search for "special education " listed 2,944 titles. But, still, it seemed as though there were enough to choose from.

Some titles and book descriptions were obviously not what I was looking for. Anything having to do with gifted children in regular schools simply wouldn't be appropriate for us as a homeschooling family. Some books were more useful than others but none of them, really, had definitive answers for the Sanchez family.

The next level of my investigation was personal contact with friends and acquaintances, professionals and lay people, in person, on the phone, through the mail, electronic and otherwise. The responses were thoughtful and varied. In fact, they were so varied that no two of them were quite the same. Oh, there were similarities to be sure, but each person put his or her own particular spin on the subject matter.

It became quite obvious, as it has with so many other issues in life, that I was on my own. I read the books and the articles, I considered the personal responses and, in the end, I filtered through it all, choosing parts from here and sections from there and relied on my own intuition. I chose the path that *felt* right. I learned to trust myself and my instincts and, in so doing, have taught my children to trust theirs. It has made a world of difference.

Now, when Miguel begins his not-so-nice behaviors, instead of telling him what to do, I ask him if he knows what's going on. Initially, he'll shake his head and deny any knowledge or culpability, but after some time, usually an hour or so, he'll return with a request to investigate a new interest or go to a new place. If the new place is within range, physically and financially, we may actually end up taking a family trip. We were lucky enough to have friends in Spain who invited him to stay with them one summer. But most often, he visits the new places in books and on the Internet.

And when Linda gets mopey and blue, I'll ask her the same question. More often than not, she's already been thinking about it and has an answer right away, usually something involving art supplies or how-to books. Sometimes what she needs is more down time and some space from her perpetually moving sibling. For both of them, what they sometimes want and need is a trip to the library, and I'm more than happy to oblige them.

We've learned a lot at the library, from the books and periodicals, of course, but also from just sitting in the comfortable chairs and enjoying the small jungle while our minds wander. It's a good thinking spot, a place to go where that little voice inside can guide me in the right direction and assure me that all I need to know is within my reach. ❖

Gregory Pattridge

Three Winners

Finding good software titles to enrich and enhance the learning of gifted students can be an arduous task. Those titles are often not bestsellers at your local software store and thus are very difficult to find. Fortunately, there are easy ways to find the software via the Internet.

The first place to search are companies that specialize in selling educational titles. These include:

KB Kids *(www.kbkids.com)*
Educational Resources *(www.edresources.com)*
Edutainment *(www.edutainco.com)*
PC Mall/Mac Mall *(www.pcmall.com or www.macmall.com).*

Ordering from these sites is usually swift and efficient, and the software can be at your home in a matter of days.

If all else fails, you can go directly to the publisher of the title, which often has an Internet site that can be found by using your favorite Internet search engine. Ordering can be placed directly with the publisher.

For this review, three titles, all highly recommended, will be discussed using the criteria below. Each of these titles meets at least three out of five criteria. Besides the review, each title is keyed as to the specific requirements met.

Criteria For Finding the Best CD-ROM Titles

1. Includes Wide Range of Levels

Software is expensive, and you would like a title to be enjoyed for many years. I look for a minimum of a four-year range and hope that use can extend into adulthood. The perfect title is one that both you and your children can enjoy separately and together.

2. Teaches Curriculum Standards

Material that is challenging and teaches some aspect of curriculum is important. Titles should be equally usable at home and school. Many titles claim to be educational but only succeed at being a fast paced arcade game.

3. Develops Higher-Level Thinking Skills

Software for the gifted child should be more complex and multifaceted and not merely request answers to knowledge-based questions. Expanding the already high-level thinking skills of the gifted youngster is an accomplishment rarely found in today's software market.

4. Requires Outside Research/Decision Making

The student should be encouraged and motivated to do research away

- continued on next page

Gregory C. Pattridge is a teacher on special assignment in the Gifted and Talented Office of Jefferson County Schools in Colorado. He also teaches for Lesley College and University of Phoenix.

BEST COPY AVAILABLE

Software Updates

continued

from the software program. This may be in the library, textbooks or on the Internet.

*5. **Provides Extensive Feedback***
Good teachers always provide continuous verbal reinforcement for learning. The computer program should also provide feedback to let students know they are on the right track.

SOFTWARE TITLES

Star Wars Droidworks
(Lucas Learning)
www.droidworks.com
ages 10-adult
Windows/Mac
Criteria:1, 2, 3, 4, 5

Could this be still another video game with the sole purpose of shooting down spaceships and capitalizing on the Star Wars craze? The results of Lucas Learning's first title could not be farther from that concept.

Droidworks is simultaneously entertaining and challenging. The focus is on the building of robotic droids that can be used to infiltrate and reprogram enemy droids. With millions of possible droid combinations, a user will have to expertly integrate qualities that will allow a droid to perform specific tasks. Once built, a droid is deployed into a series of training missions and then into four secret missions.

Most kids will find that they can build a droid in a matter of minutes, only to find it comes up way too short in the training missions. Studying the Parts Info panel and Mission Map will give needed clues to the type of droid that will be successful.

At the core of each mission are learnings on key science principals like force and motion, light, energy, magnetism and simple machines. Further exploration of these topics can be done through the Index feature. This is an interactive guide that allows users to perform experiments and observe the results, while also providing links to the Internet.

Although presented in a game format, Star Wars Droidworks encourages and sparks excitement in science-related topics. Its subtle message is that you will have to learn in order to succeed, but all of the answers are only a mouse click away. The problem-solving base is well established and presented in a fun manner.

Additional titles from Lucas Learning will be released this year. With the outstanding results generated from this first CD, these new offerings are much anticipated.

Thinkin' Things:
Sky Island Mysteries
(Edmark Corporation)
www.edmark.com
ages 8-12
Windows/Mac
Criteria:1, 2, 3, 5
Critical thinking skills are emphasized in this fourth release of the popular Thinkin' Things series. Specific learnings on how to prioritize tasks, draw valid conclusions and explore the English language are presented through four islands of challenges. The more challenges solved, the more clues you pick up to solve the mystery of who's sinking Airshow Island.

The user controls the difficulty of play via three separate modes: Q&A, exploration and challenge. 14 mysteries are included with 3000 suspects to investigate.

Sky Island Mysteries begins in Clue Central, where Detective Joe Cluestone and Spike will help you get started. To solve a mystery, you must travel to the other three isles solving different puzzles. You can solve a mystery only after gathering enough clues. The three types of puzzles are varied enough to interest most learners. They include:

- Airshow Island, where the player sets up a flight plan that will accomplish different tasks in a list. If done correctly you can help them land before their fuel tanks run dry. Prioritizing and grouping skills are emphasized.
- Rebus Island, where the player solves various rebus type puzzles using sounds, pictures and animated movies. You can also create your own puzzles.

- continued on next page

Software Updates

continued

• Stadium Island, where students observed using the program spend the most time. The Fripples, characters from previous Thinkin' Things titles, return in this stadium setting, where the idea is to make them work together based on their individual characteristics. By rearranging them into a correct seating pattern, users can avoid confusion through an understanding of how multiple relationships interact.

Most children will be drawn to one of the isles based on their age and level of thinking. Time and growth in cognitive resources should expand and allow them to enjoy all areas of this excellent program.

French for the Real World (Kaplan/Knowledge Adventure)
www.knowlegeadventure.com
ages 10-18
Windows/Mac
Criteria: 1, 2, 3, 4, 5

This is an active and fun approach to practicing foreign language skills. Included are the basics of first year French (Spanish for the Real World is also available in a similar format) that would compliment a beginning class in the language.

The premise is a road rally through France during which you compete with other drivers to reach the finish line. Most of the activity takes place at five checkpoint cities. Leaning how to make trades with vendors, dealing with a fortune teller, talking on the telephone and trying to get an autograph from a famous singer are all used as vehicles for speaking the language.

The program outpaces tutorials by being much more interactive and conversational. The cartoon graphics tend to distract from really learning anything about France, but I doubt kids will really mind. The sole purpose here is to learn French words and sayings in a fun-filled format. With this in mind, the program is a winner. ❖

• MARK YOUR CALENDAR! •

Beyond Giftedness VII
7th Annual Conference for Parents, Educators, Counselors Who Live & Work with Gifted Children

Friday, March 3, 2000
8 a.m. - 4:30 p.m.
Arvada Center for the Arts - Colorado

Keynote Presentation
Joan Franklin Smutny
Director, Center for Gifted
National-Lewis University - Evanston, IL
Underserved Gifted Populations.... Multicultural, Gifted Girls, Young Gifted, Minority, Rural and more.....

OPEN SPACE COMMUNICATIONS
800-494-6178 / 303-444-7020

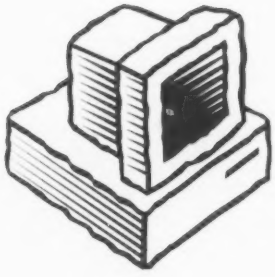
High Tech but High Touch: Strategies for Teaching and Learning via Distance

Sheri Nowak

Teachers living in rural areas have difficulty taking courses for certification or an advanced degree in gifted education because of their geographical remoteness. Their low numbers may not comprise the critical mass needed to attract the attention of enrollment driven colleges and universities. Distance education, then, is a viable method for delivering coursework in gifted education to rural areas

Satellite courses, conference calls and, more recently, desktop video teleconferencing, fiber optic connections and Internet courses are becoming increasingly popular in higher education (Rubiales, et al., 1998). In fact, colleges and universities around the country are jumping on the online bandwagon, fearing that unless they stake out the territory, someone else will (Pipho, 1999). Distance technology has even spawned the creation of virtual campuses such as the Western Governors' University. However, few universities offer graduate courses in gifted education via distance education. To complicate the situation, distance education is such a new vehicle for delivering coursework, that little experience or research about successful instruction using this technology exists.

For three years, I have taught gifted education courses using a variety of distance technology including interactive television (ITV), desktop video teleconferencing (DVC) and the Internet. In response to this innovation, enrollment in my gifted education courses has increased dramatically, with students consistently rating the instructional quality as high. What strategies have created this successful experience in distance education? What unique responsibilities do distance education students have that their peers in traditional classrooms do not?



Four instructional elements facilitate successful pedagogy using technology: preparation, effective teaching strategies, convenient student-professor communication and thorough evaluation. Additionally, distance education students have their own unique set of responsibilities. Thus, three strategies for students' successful distance learning are also important: self-directedness, assertive communication and tenacity.

Elements for Successful Distance Education Pedagogy

• Instructor Preparation

Instructor preparation is essential to quality distance instruction since the course needs to be planned in detail before it begins. The syllabus, all handouts, other ancillaries and assessments need to be prepared and copied several weeks before the start of the course in order to allow time for delivering the materials to students. A general rule of thumb is that everything takes longer with distance learning; this is especially true for mailing course materials. I recommend packaging the materials to include a welcome letter, the

- continued on next page

***Sheri Nowak** is an Assistant Professor of Gifted Education and the Director of the Great Plains Center for the Gifted, Talented and Creative at Emporia State University in Kansas. Her interests are in curriculum and programming and social-emotional needs of the gifted.*

syllabus, lesson-by-lesson directions for the readings, assignment descriptions, preparation hints for each lesson and rubrics for instructor evaluation of the submitted assignments. The rubrics detail expectations for the assignments and clarify the grading.

Journal articles and other readings should also be included in the packet to students because access to library materials is limited in rural areas. Copyright permission needs to be obtained early in the planning. Another way to provide needed information is to post materials and pertinent Internet links on a course Web site. Additionally, distance learning increases the ability for visiting professors or other experts from any part of the world to participate in the class. Participation needs to be confirmed before the course begins, and there must be compatible equipment to ensure successful audio and video transmission.

• Teaching Strategies

Teaching strategies need to be adjusted for distance education courses. In some instances an on-campus orientation session is useful, especially if the technology is new to most of the students. This is feasible only if the course is offered to students living in a limited geographical area. Whether beginning with an on-campus orientation or providing orientation during the initial session, it is important to begin with "ice breakers" or get-acquainted activities to help students feel like a "real class" by getting to know others' interests (Monson, 1990). Networking through e-mail, online Web-based forums or telephone correspondence promotes student motivation and progress.

Verbal and nonverbal strategies help students track course content and remain attentive. For example, humor, storytelling and verbal markers such as "the first point is..." or "to summarize..." focus students' attention. Another useful verbal strategy is to outline the session's sequence of events at the beginning of an interactive lesson in case a technical breakdown interrupts contact with the professor. Furthermore, a clearly articulated, expressive voice is easy to follow and thereby keeps students focused. Effective nonverbal strategies include using exaggerated arm movement and facial expressions since the instructor appears small and possibly unclear on the monitor.

Active student participation is another way to keep students focused and motivated. It is helpful to teach students the basics of Socratic discussion at the beginning of the course and then encourage student-to-student interaction rather than an instructor-led discussion or lecture. Students listen more carefully to discussions and are less likely to wait to be called upon before participating when using this strategy. However, instructors should record participation to make sure that no one dominates the discussion and that no one is forgotten. Tallying student responses is also helpful because a site may become disconnected without the instructor's knowledge. By calling on a student who has not responded for awhile, the instructor is also checking whether that site is still connected.

The challenge is to model good teaching even though the medium is nontraditional. With this in mind, instructors need to be creative and vary the types of activities in each session. Furthermore, adding flexibility and humor to these strategies will produce an enjoyable and valuable learning experience.

• Communication

Open, clear, reliable and flexible communication among the instructor and students is imperative in distance learning. Students must be given everyone's home and work telephone and fax numbers, e-mail and postal addresses. Additionally, instructors' office hours should be made convenient for the working student. Responding to phone calls and e-mail needs to be done as quickly as possible. Distance students often feel isolated; thus, responsive communication will allay the frustration and apprehension some students may feel about successfully completing assignments.

Papers and projects can be submitted via fax, e-mail and regular mail, but waiting to review them until all papers are received will prolong the process. Instead, papers should be graded as they come in. Finally, students need a realistic schedule for the return of their assignments.

• Evaluation

Evaluating students needs to be done differently, since the variance

- continued on next page

of the end product's quality is potentially greater with distance learning. Providing clear expectations in the syllabus, including them on the course Web site and verbalizing them before each due date is critical.

Although students need to freely give verbal feedback on their understanding of the material, those new to the distance medium are often reticent about expressing their opinions and understanding. Instructors constantly need to request verbal feedback. Finally, the course and the instructor need to be evaluated thoroughly so concerns can be identified, and any necessary changes can be made to improve the course.

Learner Responsibilities

Self-directedness, assertive communication and tenacity are essential to student success with distance learning. Self-directedness is very important for distance students who might be alone at their learning sites. The instructor cannot contact all the students every week to check on progress, especially if the enrollment is large. Also, students need to add to the discussion, ask questions to clarify a point and communicate with fellow students at other sites and with the instructor using telephone, e-mail or fax. Students intimidated by such assertive communication need a relevant ice breaking activity which demands non-threatening student-to-student interaction. Finally, tenacity is a crucial quality for distance students. Technical difficulties, working on assignments with little library access and contacting the instructor require tenacity to get the coursework successfully done. Completing the coursework through an unfamiliar medium can be daunting. The instructor's ability to encourage a *stick-to-it* attitude increases the quality of the coursework as well as the quantity of students who complete the course and sign up for another course the next semester.

Conclusion

Imagine....a "classroom" of students geographically distributed over thousands of square miles simultaneously discussing issues concerning gifted education. A similar successful educational experience can be replicated using the specific teaching and learning strategies discussed. Distance education can be a positive experience for remote rural students if these strategies are kept in mind. ❖

References

Monson, M. (1990). Bridging the distance. Madison: University of Wisconsin.

Pipho, C. (1999). Stateline: The profit side of education. Kappan, 80, 421-422.

Rubiales, D., Steely, M. T., Wollner, C. E. & Richardson, J. T. (1998). Distance learning. Academe, 84 (3), 30-38.

Some Ironies of Modern Teacher Training

Laura Goodman

Way back when, I didn't think I knew it all, but I sure thought I knew a lot. About teaching. Over the decades of my adult life I've been hired to teach a lot of things to a lot of people. I've stood in front of countless classrooms to teach French and art history to public and private middle and high schoolers. For a number of years, I taught French composition and conversation to college students and, through continuing ed, to people old enough to be their parents and grandparents. I've taught creative writing workshops to 2nd graders and mature professionals. You have the knack, I heard so often. Yes, I thought so, too, and that I had the teaching thing down.

Then, when our son was 10, came the shift to homeschooling. He left his school years completely soured on learning and being taught. As his parents, we were enthusiastic, ready to reclaim him from his dark disaffection and eager to educate him in our own way. On the literature/language/social studies side of things, I felt solidly prepared. My husband is a brainy scientist who's never met a math concept he can't grasp, so he, too, felt well prepared. Between the two of us and our natural predilections, plus my professional preparation in education, we felt we had most areas covered. What great teachers we believed we would be!

Have you ever noticed how irony seems to lie in wait for those who are so certain of so much, waiting to pounce when they're not looking? I never saw this one coming at all.

In these three years of our homeschooling, one of the greatest surprises has been how very little my teacher training and experience have served me as my son's "teacher." In fact, if anything, those years of preparation and classroom practice have proved to be a detriment.

Our son is an extremely divergent thinker, a person who learns with lightning speed and mostly by some mysterious form of osmosis; he's a self-possessed individualist who *must* do things for himself. For these reasons, and more, traditional forms of education failed him miserably. Since it was clear to all that formal schooling didn't work for him, we had no intention of trying to recreate it at home. We started out knowing there would be no worksheets for us, no formulaic book reports, no chapter tests in our house; we were set on being free-form and ready to instruct in teachable moments. What surprised me in the beginning, and continues to do so, is how embedded traditional Teacher Think is in my being. In spite of my best efforts to the contrary, I persist in thinking I should try to direct him, craft his learning, teach him

- continued on next page

Laura Goodman *is the editor of Understanding Our Gifted, a fiction writer and the homeschooling parent of a gifted child. She lives in Seattle, Washington.*

things. Not that I don't teach him things, because I certainly do — sometimes intentionally, sometimes not. He is a learning machine, all right, but the mechanics of how he goes about it bear little resemblance to the workings of the showroom models plugged in and humming in school classrooms across this continent. My problems with being my son's homeschool teacher have come not, as many people think, because I am his mom, but because I was a professional educator.

But I have help for those problems. One is in the form of a wonderful teaching model, a person whom I look to as both a practical and conceptual advisor. This woman was my son's 2nd-grade teacher. Irony abounds in this world, doesn't it? Yes, a veteran of many years in public-school classrooms, she showed me then, and, as a result, I have come to understand what I believe is the true essence of being a good teacher. After thinking about that good 2nd-grade year, I've distilled it all down to one simple detail from her classroom and teaching approach: she didn't have a desk. I doubt this was a deliberate move on her part; rather, she just seemed to need more space in which to operate with the children. She certainly didn't need a site to establish her as boss or queen of her room, though she definitely was both of those, and beloved to boot. She took it all on the road, as it were, as she roved about that classroom and inspired those children. If she wanted or needed to speak with one of her students, she didn't call him up to her desk for an audience, she went to him, to where he sat and worked. It became clear to me that such practice constituted her educational philosophy, too. And, to my mind, it embodies the essence of good, good teaching, whether in a traditional classroom or at home. She figured out where each child was and went to her there. By every action and interaction, she facilitated that child's learning and love of doing so. I am more grateful to her than she will ever know.

Now, amazingly, I find I have yet another good teacher in my life, a generous soul who offers me all the lessons I can handle. These I learn best when I'm able to silence the old Teacher-Think tapes playing in my head and pay attention to what this professor has to tell and show me. The young man is such a good teacher, exceptionally, naturally good, though he'd dismiss me if I said it out loud. Perhaps you've figured this one out by now; of all these educational ironies, the most phenomenal of them is that I've never learned so much about teaching and educating as I have from *not* teaching my own son.

So, what does this ex-teacher teacher know about teaching now? I know the best training I've had has come unbidden. And the best and most meaningful learning occurs when I've thrown open my mind and life and embraced what I've found. And, with the profound curiosity of one who loves to learn for the sake of learning, it's made me wonder, and impatient for, who or what is next. I know I've been paying much better attention in these last few years of my teacher training than I ever did before. ❖

Dear Teachers,

In school, it's students not books that are the important things. And the students are growing. And like other growing things, they need the right atmosphere to grow in. The atmosphere is what determines whether or not they will flourish. Of this atmosphere, books are only one part. What about the rest?

Do students get the sunshine of love and attention from their instructors? Do they receive the rain of affection and intimate exchange from one another? Do they have time and space to grow in?

J.T.

From the Chapter "Postcards From the Edge."
Tompkins, J. T. (1996). A Life in School, What the Teacher Learned, p. 152. Reading, MA: Perseus Books.

The Bookshelf

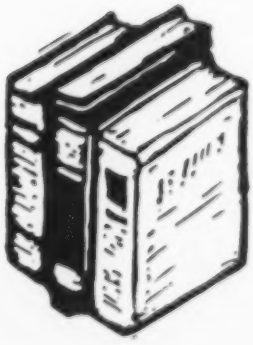
Suzy Schettler

Wonderful Worlds of Fantasy

Fantasy has always been a popular genre with gifted kids. It allows them to escape into other worlds where impossible things can happen, where magic is commonplace and where the unusual often pays off. Many times, the main characters are individuals who don't quite fit, who are a little different than others and, in some cases, are on a quest to discover who they are and their place in the world. Often, those very differences contribute to their success in the end.

In our home, the young adult fantasy novels of Diana Wynne Jones have enjoyed numerous rereadings and remain among our favorites. Her books, plots and characters are all extremely creative with as many layers to them as the proverbial onion.

My 10-year-old son's favorite by Jones is *The Lives of Christopher Chant* (1998, William Morrow. ISBN: 0688163653). The main character, Christopher Chant, is a boy I think gifted children will easily relate to. He's likable, very real, with a rare and extraordinary gift —he has nine lives, a fact that seals his destiny as the next great Chrestomanci, or head controller of magic in all the worlds. Chrestomancis are extremely powerful enchanters who occur very rarely. In typical boy fashion, Christopher isn't particularly sure he wants to possess such a gift and feels that perhaps he'd rather become a professional cricket player. But despite his objections, he is sent off to Chrestomanci Castle to train under Gabriel de Witt, the current Chrestomanci, and finds himself in the midst of the greatest adventure of his life.



Many high-potential kids will be able to relate to Christopher's struggle to find a balance between living up to the expectations and pressures placed on him by others and what he wants and needs for himself. Chant is also a character with a great depth of caring and compassion, which sometimes causes him to break more than a few rules to help someone. His trusting nature is easily manipulated by those who seek to use him for their own devious purposes, and Christopher learns some hard lessons about who is worth trusting, what is right and what is wrong and that one needs to be careful about what and whom to believe in.

Throughout the book, readers will watch Christopher as he tries to find some way to come to terms with his extraordinary abilities, his future destiny and the expectations and demands of those around him, all the while trying to learn for himself who he really is. His father seems to want to live success through him, and his mother wants to use him to achieve a higher social standing and material wealth. His uncle exploits his ability to spirit travel and tricks him into smuggling illegal goods from other worlds. Feeling as if everyone wants something from him and still not sure what's in his own heart, Christopher eventually finds himself battling a group of evil sorcerers called The Wraith and comes to a point where he must choose his path.

- continued on next page

***Suzy Schettler**, from Ontario, Canada, is the mother of two gifted sons.*

Bookshelf

continued

Jones does a wonderful job of mixing humor and fun with hard truths about growing up and becoming comfortable with who you are. Christopher Chant appears as an adult in his role of Chrestomanci in numerous other Jones' books. *Charmed Life* (1998, Beech Tree Books. ISBN: 0688155464) is the story of how Christopher trains his own successor, a boy named Cat, 25 years after the events related in *The Lives of Christopher Chant*.

As a central idea in many of her books, Jones springboards off the premise that there are multitudes of alternate worlds. The notion is that worlds are created from the varying outcomes of great events in history. When there's a war, for example, two separate possible worlds, each with a different side winning, are created. Each world then goes on to evolve from there. In some worlds magic is as common as breathing, while in others magic no longer exists. In another novel, *Witch Week* (1997, Beech Tree Books. ISBN: 0688155456), magic is considered a horrible thing and witches are hunted and burned over a bone fire. When Mr. Crossley, a teacher at Larwood House for witch orphans, discovers a note on his desk reading: "SOMEONE IN THIS CLASS IS A WITCH," he worries about what he should do. He takes it to Miss Hodge, another teacher, and they nervously reassure themselves that the note is simply a bad joke until magical things start happening. Soon, everyone is looking with suspicion at everyone else. Who is the witch? And what will the Inquisitor do when he arrives? This book contains some interesting reflections of prejudice and ignorance combined with a lively story and lots of humor and suspense.

In *Howl's Moving Castle* (1986, Greenwillow. ISBN: 0688062334), Jones creates a different kind of fantasy that plays off the typical fairy tale stereotype. This is a story full of things like seven-league boots, spells sewn into the seams of clothing and inanimate objects coming to life. Set in the imaginary land of Ingary, it's the story of young Sophie Hatter who has a run-in with a witch and is turned into a hag. In her quest to find some way to break the spell, she finds herself in a strange castle that moves constantly about the countryside spewing forth blue flames and black smoke. Sophie soon learns that things aren't always the way they seem as she befriends a fire demon, helps an enchanted dog and gets to know the mysterious wizard Howl, reputed to suck the souls from young girls. Lots of creative and unpredictable twists with a surprise ending make this book a fun read for any age. There is also a sequel called *Castle in the Air* involving genies, flying carpets, kidnapped princesses and, of course, Howl's wonderful moving castle.

Diana Wynne Jones is a prolific writer and has the talent of being able to write in a variety of styles. Her books are not all the same, and her ideas and stories are always refreshingly different, full of interesting and unexpected ideas to think about and discuss. For example, in *Archer's Goon* (out-of-print), a boy named Howard comes home to find the Goon sitting in his kitchen. The Goon makes it clear that he's there to see Howard's father Quentin Sykes. When Howard asks what the Goon wants with his father, the response is that Sykes got behind with his payment, and Archer wants his "two thousand," so he's there to collect it. Howard learns that Archer farms the part of town in which they live and that if Howard's father comes up with the "two thousand," then Archer won't make trouble for him. The twist in the story comes when the reader discovers that the "two thousand" is not money, but words!

I've served up only a small sampling of Jones' wonderful books here. She is a writer definitely worth investigating. Many of the books have both strong male and female characters involved in adventures together and would be enjoyed by readers of either gender. While some of her books may now be out of print, they're likely available through inter-library loan if not on shelves of your local library. Full of food for thought, they offer wonderful worlds of fantasy to escape to at any age. ❖

Order One Complete Volume - Get another one ***Free***
(Volume 1-8)

SPECIAL *– only $45.00 for 12 issues*

U.S. only
Indicate Issue Selection below.
Call for special Out-of-Print Pricing.

Understanding Our Gifted Back Issues

Volume 1-3 are out of print.
Please call for special Out-Of-Print pricing

Issues in Volume 4-8 $8 each
plus shipping/handling

Volume 4
- ❒ 4-1 Student Research
- ❒ 4-2 Technology and Education
- ❒ 4-3 Empowering Parents
- ❒ 4-4 Assessing the Gifted
- ❒ 4-5 Collaborative Efforts
- ❒ 4-6 Family Relationships

Volume 5
- ❒ 5-1 Homeschooling
- ❒ 5-2 Promising Practices
- ❒ 5-3 Parent Advocacy
- ❒ 5-5 Young Gifted Child
- ❒ 5-5A Being Out of Sync
- ❒ 5-6 Philosophy of Giftedness

Volume 6
- ❒ 6-1 Valuing Parents
- ❒ 6-2 Excellence Revisited
- ❒ 6-3 Networking
- ❒ 6-4 Talent Searches
- ❒ 6-5 Attention Deficit Disorders
- ❒ 6-6 Mainstreaming

Volume 7
- ❒ 7-1 Spectrum of Giftedness
- ❒ 7-2 Update On Technology
- ❒ 7-3 Recognizing Gifted Young Children
- ❒ 7-4 Secondary Gifted Students
- ❒ 7-5 Exploring Creativity
- ❒ 7-6 Mutual Education

Volume 8
- ❒ 8-1 Multicultural Issues
- ❒ 8-2 Gifted Students - Upper Elem./Middle
- ❒ 8-3 The Visual Learner
- ❒ 8-4 Parenting & Teaching Gifted Children
- ❒ 8-5 Global Connections for Gifted Students
- ❒ 8-6 Affective Needs

Add Shipping/ Handling as specified on order form.

Indicate Volume Specials in your order or call:
800-494-6178/303-444-7020

Issues in Volume 9 -10 $12 each
plus shipping/handling

Volume 9
- ❒ 9-1 Perfectionism
- ❒ 9-2 Gifted Ed. & the Law
- ❒ 9-3 Inside Giftedness
- ❒ 9-4 Learning Differences

Volume 10
- ❒ 10-1 Educational Options
- ❒ 10-2 Intelligence Revisited
- ❒ 10-3 Parenting & Advocacy
- ❒ 10-4 Curriculum

Volume 11
- ❒ 11-1 The Total Child
- ❒ 11-2 Gifted Girls
- ❒ 11-3 Asynchrony
- ❒ 11-4 Teaching Teachers

To Order, Use Form Below

dorothy@openspacecomm.com
www.openspacecomm.com

Order Form

Understanding Our Gifted Subscription — Published Quarterly
$35 Individual / $45 Institutions $_____
International $47 U.S. funds / International Institutions $57. $_____
Back issues in Volumes 4-8 @ $8 / in Volumes 9 -11 @ $12 $_____
Internatl. Issues in Vols. 4-8 @$10 U.S. / in Vols. 9 -11 @$20 $_____

Professional Development Series Books
__ ***Affective Education*** $14.25 $_____
__ ***Parent Education*** $14.25 __ Spanish Version $10 $_____
__ ***Teens With Talent*** $15.45 $_____
__ ***Smarter Kids*** $15.45 $_____

Audio Tapes - Beyond Giftedness Conferences
__ Tape BG VI ***Perfectionism*** - Carol Fertig NEW $12 $_____
__ Tape BG V ***Gifted Visual Learner/ADD*** - Jeff Freed $10 $_____
__ Tape BG IV ***Soc/Emo Gifted/ADHD*** - Geo. Betts/Geo. Dorry $8 $_____

Shipping/Handling $_____

Back Issues, Books, Tapes - Add 10% ($2.50 minimum)
International - Subscriptions, Back Issues, Books, Tapes - Add 20% ($7.50 minimum)

Total Enclosed U.S. Funds $_____

Name_____

Institution_____

Address_____

City/State/Zip_____

Country_____

VISA/MC _____
Expiration_____
Purchase Order #_____

Checks payable to:
OPEN SPACE COMMUNICATIONS, INC.,
1900 Folsom-Suite 108, Boulder, CO 80302
800-494-6178/303-444-7020/FAX303-545-6505

New *Place your order from our Web Site: www.openspacecomm.com*

EDUCACIÓN PARA PADRES:

Los padres conocen a sus hijos mejor que cualquier otra persona, y ellos pueden compartir ese conocimiento con los maestros. Los padres pueden apoyar efectivamente las necesidades únicas de sus niños.

Los padres de niños superdotados que están informados pueden, en efecto, ser la voz que es escuchada.

Order Your Copy Today
only $10 *plus S/H - Order Form Inside*

NEW!

SPANISH Translation

.....Best selling book in *Professional Development Series*

Parent Education:
Parents As Partners

by Dorothy Knopper

Open Space Communications
800-494-6178 / 303-444-7020
www.openspacecomm.com
dorothy@openspacecomm.com

Open Space Communications, Inc.
1900 Folsom, Suite 108
Boulder, CO 80302

Change Service Requested

BULK RATE
U.S. Postage
PAID
Boulder, CO
Permit No. 94

**********AUTO**ALL FOR ADC 220

5
18